# The JOURNAL OF HIGHER EDUCATION

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The Journal of Higher Education APRIL, 1950

# The Youngest State University

By ALVIN C. EURICH

*The Organization Details of the Recently Established State University of New York*

THE State University of New York, the newest of the state universities, came into being as a corporate body in April, 1949. The act of the 1948 Legislature creating the University followed the recommendation of the New York Temporary Commission on the Need for a State University, of which Owen D. Young was chairman.

The report of the Commission, filed on February 16, 1948, included the results of a two-year study. The functions and the responsibilities of the State University were outlined in the Report to include the planning, supervision, and administration of all facilities for higher education now or in the future supported, in whole or in part, with state moneys. It is dedicated to providing facilities in higher education for the qualified youth of the state, regardless of race, color, creed, place of residence, or economic status. The structure of the growing organization reflects this purpose.

The modern American university exists to prepare youth for life in a democracy. This proposition is axiomatic. It is vital only in terms of the assumptions that shape the educational programs. Among those basic to the development of the newest and last of the state universities—the State University of New York—are the following:

*First*, our greatest resources are our human resources; our greatest power is human power when fully developed. The abilities and talents of each person must be discovered and developed in his own interest, and for the common welfare. If a dictatorship can be defined as a system which cuts its citizens down to a pattern decreed by authority, a democracy not only permits but encourages its citizens to grow in the direction of their abilities.

*Second*, higher education should be easily available to all who are qualified to profit from it. No human resources should be lost through bar-

riers of age, race, color, creed, or national origin. Neither should the right to an education be contingent on ability to pay for it.

*Third*, beyond and above the power to think, to acquire knowledge, and to develop skills, a university must also help the student to understand how he can apply his abilities most usefully. During the course of his development he should have experiences that will reveal to him the part he can play and the services he can render to make his individual contribution to the community most effective.

*Fourth*, experiences must reveal to the student that he is a part of society; what strengthens it, benefits him; a threat to the social system is a threat to him. The degree to which he comes to look for more than monetary rewards for his contributions to the community is a measure of this understanding.

*Fifth*, the student must develop into the kind of person needed in our democratic society. Totalitarianism thrives on insecurity, ignorance, and panic. Democratic action must originate with, or be approved by, a people whose individual members are secure, well informed, and capable of assuming the responsibility for their public actions.

*Sixth*, above all, the student must be led to an understanding that successful and useful living in a democracy is in large part the art of adjusting an enriched personality to a diversity of other personalities, each with an equal right to live and prosper, and each equally important to the community.

Clearly, these assumptions originate from the nature of democratic society, the definition of the rôle of the individual in such a society, and the preparation he needs for effective participation. Other assumptions, equally important, might be added or substituted, since democracy is as broad as life itself. Thus, while the goals of American universities are uniform and the ultimate objectives to be attained by every student have a common origin, the ideal can be attained in fact only through a wide diversity of programs and methods. Each program must be suited to the range of capacities, ambitions, and opportunities among its individual students. The unique organization of the State University of New York, together with the broad charter under which it operates, is admirably fitted to that end.

Following these assumptions I shall, first, examine the composition of the State University of New York as of April, 1949, when it was incorporated; then outline the mandate given the University by the Legislature, and review the steps since taken toward fulfilling that mandate; and, finally, describe some of the high lights of administration and organization of the University.

IT HAS long been a policy in the state of New York that public and private efforts should be combined to promote a unified state program of higher education. That policy will be continued and strengthened. All facilities of the State University, existing now or to be created, are designed to supplement, not to supplant, the existing network of excellent privately operated colleges and universities within the state. In establishing new units, the State University gives full consideration to the plans and projects

of private institutions. In assessing the need for higher educational facilities in any area, the State University gives full weight to whatever may be done by private institutions to meet such needs. The State University, therefore, does not compete with any other institution. Its function is to supply post–high school education where other adequate facilities either do not exist or for some reason cannot be utilized by qualified students.

The board of fifteen trustees of State University was assigned by law administrative authority over more than thirty hitherto separate state-supported institutions. These units were of such scope as to constitute a university in themselves. In two-year, four-year, and professional programs, they offered instruction in a wide variety of fields. The institutions themselves were located in virtually every region of the state. From the capital city of Albany, they stretched southward into New York City and Long Island, northward almost to the Canadian border; westward they spread in a broad fan extending from Lake Ontario and Lake Erie to the borders of New Jersey and Pennsylvania. There were eleven teachers' colleges, each with its own practice school; seven four-year professional colleges; eleven two-year institutes, and two of the four two-year liberal-arts colleges which the state had created to provide for returned veterans. Their combined faculties had approximately three thousand members; the combined student population approached thirty thousand, making it the seventh largest of the universities in full-time enrollment; and the value of the physical properties exceeded $85,000,000. Some of the units were created as recently as 1946; the oldest of them, more than a century ago.

Of the eleven teachers' colleges, some had originated as local academies. All were at one period two-year state normal schools, which became full four-year colleges some time prior to the establishment of State University. The oldest unit in the State University of New York, the State College for Teachers at Albany, had already developed a graduate program of considerable scope, and graduate programs were under way in some of the others.

The other professional colleges are the College of Agriculture, the College of Home Economics, the School of Industrial and Labor Relations, and the Veterinary College, all of which are located at Cornell University; the College of Forestry, at Syracuse University; the College of Ceramics, at Alfred University; and the Maritime College, which is housed at Fort Schuyler in New York City. Of these, all except the Maritime College are statutory colleges, set up by legislative action to be operated for the state by the parent institution. This statutory relationship was not disturbed by the creation of the State University. Their general supervision and control rests with the Trustees of the State University, who are charged with the co-ordination of the statutory or contract colleges within the University system.

The demands of veterans for higher education at the close of the Second World War made necessary the establishment of four state-aided two-year institutions offering liberal-arts programs. These are the Associated Colleges of Greater New York, organ-

ized and administered by a board composed of presidents of other colleges. The peak having passed, two of the four colleges, Mohawk and Sampson, have been closed. Champlain College and Middletown Collegiate Center are still in operation. Although the legislation which created them expires at the end of the present academic year, Champlain College will become a four-year liberal-arts college of the State University on July 1, 1950.

Of the eleven two-year institutes of the State University, the six oldest are known as the Agricultural and Technical Institutes. Planned originally to offer two years of post–high school study of agriculture, their programs in response to such developments as the progressive mechanization of farming, the growth of dairy-products industries, improvements in canning, and frozen foods have expanded into many phases of industrial technology. The five more recently founded Institutes of Applied Arts and Sciences, created by the Legislature in 1946, offer two-year terminal programs in a diversity of fields. Their offerings, as in the older institutes, are determined by needs and opportunities in the region. The activities are planned so that each institute can offer the greatest service to local industry, business, and agriculture, both directly and through vocational preparation for those fields.

The adaptations of program required for this purpose are obvious. Agricultural education in a dairying county naturally stresses dairying; technological courses in such regions will deal with the study of machinery for processing dairy products. The emphasis is quite different on Long Island, where a large need exists for graduates in horticulture and for qualified managers of large estates. On the other hand, since automotive machinery is widely used everywhere on city and farm, automotive mechanics is studied in most of the institutes.

Even from so brief a résumé, it is clear that the State University of New York at the outset was offering a broad program of professional and technical training to a student body with widely diversified needs, at institutions located throughout the state. From this broad base the Board of Trustees moved forward to develop a university organization, and to carry out other duties entrusted to it by the Legislature. The nature of these duties may best be understood by considering the major aspects of the legislative mandates incorporated in the law creating the State University.

THE mandates for the future development of the State University had two general aspects. One was for the immediate establishment of two medical centers, the need for which was pointed out by the Temporary Commission. The second was for the study of needs and preparation of recommendations for other professional schools and research facilities, for additional four-year colleges, and for a state system of community colleges. The long-term requirements and plans for these latter are to be incorporated in a master plan.

Of the two medical centers specified in the mandate, one was to be located in the metropolitan area of New York City, and the second at least 100 miles from the first. After careful study of possibilities and alternatives, action was taken during the summer

of 1949 to absorb the Long Island College of Medicine in New York City, and the College of Medicine of Syracuse University. The latter institution, surrounded by an extensive rural area, will be encouraged to stress the problems of rural practice, in contrast to those emphasized by Long Island College in a great metropolitan area.

The need for more doctors in New York State is urgent. Had the State University waited to erect and staff even one new medical college, the increase in the number of medical students in the state might have been delayed for as long as five years. Careful investigation revealed that, with certain readjustments requiring some financial support, the number of students in the two institutions could be increased without jeopardizing the existing high quality of instruction and professional preparation. Accordingly, pending completion of the legal processes, substantial financial obligations were assumed by the state for both schools. The result was the admission, in September, 1949, of additional candidates for medical degrees equivalent to the average freshman class in the medical colleges of the other universities of the state. In effect, the increase was thus equivalent to the opening of an entirely new medical college.

Enlargement of physical facilities to provide for an expanded program at both institutions is proceeding in advance of the completion of details of formal affiliation with the State University, which will soon take place. Training will be provided for physicians, dentists, public-health officials, nurses, social workers, and other related personnel required to implement the broad principles that health and sickness are measures of man's adaptation, or lack of adaptation, to his environment. Just as the medical graduates will be prepared to minister to the total man, so will the medical centers be integrated to the service of the total community.

The necessity for state-supported medical centers had been widely recognized; action could be taken at once without prejudice to other programs of the State University or to private institutions. As attention was turned to the establishment of other new units—two-year, four-year, and graduate facilities—the need for careful study became evident. Interrelationships of location, plant, and curriculum must be defined in a master plan that takes into account the educational needs and population trends of the state and provides orientation for future expansion in higher education. Fundamental in this planning is the concept of the community college.

The community college offers one means of reducing the economic barrier to higher education. Inflated operating expenses and lowered interest on endowments have doubled the cost of running a college during the past few years. This has been reflected in rising tuition fees. With the cost of living away from home steadily increasing, the average American family is being priced out of the higher-education market. Direct action by the state is needed if higher education is not to become the special prerogative of upper-income families.

The community college has dual purposes. For most of the students it serves as a terminal college providing post–high school general education aimed toward the development of

effective citizenship. The community college also serves as the freshman and sophomore years for a smaller proportion of students who intend to complete the remainder of the four-year program elsewhere. Its activities are articulated to the needs and welfare of the community, with programs geared into local industry, business, and community life. Its organization provides for a maximum of local control and program planning.

A community college may be sponsored by a city, county, or intermediate school district, or by any combination of such government units. The state of New York will share the capital outlay equally with the sponsoring unit for a suitable plant, on the basis of expected-student capacity and suitable program. The community may build more elaborate structures if it so desires and its resources will permit. The state also will bear one-third of the operating costs. The community may raise funds for the remaining two-thirds through gifts, taxes, and tuition, provided the total tuition charges do not exceed one-third of the operating costs.

The community college is operated by the community under direction of a local board. It is not a part of the State University. It must, however, be established in conformity with the standards of the State University, which exercises general supervision and co-ordination. Pointless overlapping of plant and curriculum must be avoided. Courses of study must be provided in localities and institutions so that they will best fit the over-all educational requirements of the state. Curriculums for students who intend to complete work for the Bachelor's degree must be planned so that students may transfer to four-year colleges without loss of credit. Such planning requires not only fact-finding and projecting of data, but also the collaborating of all groups, both professional and lay, that are closely concerned with the educational future of the state.

As one phase of this planning, a two-day hearing on needs and plans of higher education was held in September, 1949, at Albany, by the Trustees of the University. Those invited to attend included the presidents of all colleges and universities in the state, the mayors of all cities, the chairmen of all boards of county supervisors, and other persons who had expressed an interest in the subject. In spite of the short period which had elapsed since the community-college idea had been put forward, two cities announced their readiness and financial ability to go ahead with the program. Interest in the project was widespread, though a majority of the communities voiced their present inability to raise the necessary funds by local taxation. Considering the natural reluctance to add to tax burdens, even for education, this attitude is not hard to understand. It is to be expected that, as the importance of the project is more widely realized, other communities will find themselves equally able to act.

Since the master plan is to be statewide in its scope, basic questions concerning the locations and curriculums of the community colleges must be settled before the establishment of any new four-year liberal-arts colleges, entirely state-supported, which State University is also empowered to create. The interest in this field is widespread, and several of those

present at the hearing expressed the hope that their communities might be selected as locations for such four-year colleges. However, the fundamental structure of the over-all plan must be settled even before the establishment of the first community college is approved.[1]

THE legislative mandate requires that the master plan "shall take into consideration the number of potential students who may be served by such colleges, and the occupational needs of the community, the state, and the nation." The basic data required for these purposes fall into three categories: over-all population data for the state of New York, college enrollments, and college capacity.

For purposes of the study the state was divided into eleven economic areas, as defined by the State Department of Commerce. These conform to considerations of local geography, local needs, local interests, local transportation networks, and local initiative, as required in the master plan. The student-enrollment potential and college capacity were determined separately for each area.

Student potentials up to the year 1966 were calculated on the basis of actual birth records for the state. It was clear from a comparison with college capacity that each of the eleven economic areas would require one or more two-year institutions. Need for additional four-year college facilities to accommodate thirty thousand full-time students was predicted by the Temporary Commission and, while the outline is clouded by the veteran enrollment, temporary facilities, and overcrowding, the estimate still appears reasonable. It is clear also that all four-year facilities, both permanent and temporary, must be maintained.

On the basis of these studies and estimates of needs, the master plan was drawn up and presented at hearings by the Board of Trustees on January 4 and January 23, 1950. At that time, representatives of both public and private colleges had an opportunity to express their views on the plan and on five specific proposals arising from it:

Establishment of two state-operated four-year colleges by taking over two temporary colleges

Establishment of two two-year community colleges

Incorporating the Fashion Institute of Technology in New York as part of the State University

These specific proposals are now in the final stages of consideration.[2]

The State University came into existence as a decentralized system. There is no main campus—each unit is co-ordinate with all the rest. The nature and location of its units reflect the extreme diversity of local educational needs in the Empire State. In this decentralization lies the unique strength of the University. It minimizes the effect of one of the most important of the economic barriers—the cost of living away from home—by making higher education widely accessible. It encourages the articulation of the college program and community life. Through local boards, the community participates in shaping the program and policies of the local

[1] A master plan along the lines described was recently adopted by the Board of Trustees. The plan was approved by the Regents to permit the establishment of 2 two-year community colleges and 2 four-year liberal-arts colleges.

[2] *See* Footnote 1.

unit. This co-ordinated decentralization will be maintained and extended as the University expands its program.

JUST as the structure of the State University is unique in the decentralization of its units and the absence of a main campus, the organization and administration is in many ways unusual. It is designed to achieve co-ordination of a unified system of higher education, with a maximum of community control of local units.

The standards for educational institutions at all levels in New York State must conform to requirements set up by the State Board of Regents. To preserve unity in the entire educational system of the state, the State University was set up under the general supervision of the Board of Regents. Prior to the creation of the State University the administrative head of each of the state-supported institutions of higher learning was responsible directly to the Commissioner of Education and the Board of Regents. The merger of these institutions into a state university with its own board of trustees created a new relationship. The Trustees were charged with administrative powers over the component units. By agreement with the Board of Regents, the Trustees of the State University have the same administrative powers as boards of trustees of other universities within the state except that the budget of the State University is submitted to the Commissioner of Education for incorporation with the total budget of the state.

Since the various units now comprising the State University came into being independently and at various times in the educational history of New York, their incorporating laws and administrative structures are not uniform. The general organizational structure is now under review. The Maritime College and each of the teachers' colleges has a president. Each institute has a director. Each of the seven contract colleges has a dean subordinate to the president of the parent institution. Each unit has its own board of trustees or board of visitors, varying in the authority they possess and exercise.

The central administrative staff includes the president of the University, a business assistant to the president, an academic assistant to the president, a university architect, a secretary to the Board of Trustees, a public-relations officer, and four executive deans—for teachers' colleges, community colleges and two-year institutes, four-year colleges, and medical education. During the organizational period the University has had the benefit of assistance from the facilities and personnel of the State Department of Education. It will continue a close working relationship so that these resources will not be duplicated but utilized to the fullest extent.

Co-ordination and a unified point of view among the units of the University require not only a sound theoretical organization but personal contacts and interchange of ideas among those responsible for policy-making in the component units. Some of this has come about naturally, in the discussions of unit budgets. Other opportunities have been specially provided through the regular meetings at Albany between the central administrative staff and the heads of the units and through individual visits by the presi-

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# The Future of Higher Education

By H. K. NEWBURN

*A University President's View*

IF A democracy such as ours is to continue in strength and promise, all of its citizens must be educated to the fullest possible extent of their capabilities. Although the implications of such a thesis may be debated vigorously and continuously, there surely should be no real disagreement with this basic principle so clearly related to the vitality of the nation.

The President's Commission on Higher Education believes that the application of this principle means there should be enrolled in the colleges and universities of this country in 1960 a total of 4,600,000 individuals—almost double the present enrollment—and that vigorous steps should be taken to make such attendance possible.[1] On the other hand, many educational leaders disagree with this contention, and anticipate dire consequences if such numbers are registered. To the extent that these critics base their disagreement upon a difference of opinion as to the minimum intellectual qualifications necessary to justify college attendance, and thus reflect the belief that many persons should attain the full limits of their capacity for education before reaching the college level, there need be no serious concern regarding such opposition. If, however, many such critics are voicing a philosophy which does oppose in principle the belief that in this nation all persons must be educated to the extent of their capabilities and their willingness to make the necessary effort, clearly real danger is involved.

The ultimate determining factor in a full realization of our democratic ideals is the extent to which every citizen is educated to accept his responsibilities in our society. The President's Commission on Higher Education emphasized this fact.[2] The proponents of this view are not suggesting that every person become a college graduate, or even that all youth attend college. Far from it. What they are proposing is that a real effort be made to encourage each person to obtain by formal and informal means the kind and extent of education for which he is qualified on the basis of ability and interest. Certainly, guided by such a standard, not all persons would attend college.

Evidence indicates that such factors as place of birth, religious faith or racial background, size of family, and income or occupation of parents have a much greater relationship to college attendance than most persons would

[1] As a member of the President's Commission, the writer has consistently insisted that this figure is too optimistic and that a predicted enrollment of 3,000,000 to 3,500,000 is more defensible. Any generalizations made in the article, however, would be equally true under this more conservative estimate of enrollment for 1960.

[2] *Higher Education for American Democracy.* New York: Harper and Brothers, 1948. Vol. I, pp. 101, 5. (Report of the President's Commission on Higher Education).

consider desirable. Certainly, it is obvious that a boy whose father's wages fall in the higher-income brackets has a much better chance of attending school beyond the twelfth grade than do those whose family incomes fall in lower brackets, regardless of intelligence or educational background. In a University of Minnesota study it was found that for every high-school graduate who ranked in the upper ten per cent of his class and entered college, another graduate also ranking in the upper ten per cent failed to do so.[3] In another study it was found that one-third of those who ranked academically in the upper quarter of their high-school graduating class were denied a college education because their families could not afford the expense it involved.[4]

Democratic living is not necessarily best advanced by indiscriminate mass education but neither is it promoted materially by an educational program in which the bases of selection are other than the ability and interest of the individual. In our present educational system many persons continue their formal education beyond the point where they have the ability to profit much from the experience, at least in the type of offering ordinarily provided by the colleges and universities. Many others are denied the chance for further education, or because of lack of interest choose not to take advantage of it, even though they are highly qualified to continue on the basis of ability. To achieve a truly democratic educational system, procedures must be developed which will regulate the amount of education solely on the basis of individual ability and willingness to make the necessary effort; which will provide a program the nature of which is determined by the interests and special abilities of the student involved. Under such an arrangement, it is certain that many more persons will remain in school beyond the twelfth grade than at present. It is equally certain, however, that many continuing beyond the high-school level will be following types of curriculum not ordinarily offered by the colleges and universities at this time.

BARRIERS other than economic are gradually being lowered, and eventually they will be eliminated. The economic hurdle, however, which for the veterans has been eased considerably by the present Federal and state aid, will become practically insurmountable for young persons of low income in future years if aggressive action is not taken. Since there seems little likelihood that the high cost of education will be materially reduced in the years ahead, if means are to be found for encouraging attendance without regard to economic status, they must involve a reduction in the proportion of the costs borne by the individual.

Some relief would be provided if the colleges could reduce or eliminate the fees individual students are assessed, particularly in expensive professional schools. The average annual fees collected by publicly supported institutions in 1946–47 varied from approximately $100 for colleges of arts and science to about $300 for dentistry

[3]University of Minnesota Study. *Summary Findings on Student Survival.* Minneapolis, Minnesota: University of Minnesota Press, October, 1943.

[4]Phearman, L. T. "Comparisons of High School Graduates Who Go to College with Those Who Do Not Go to College," *Epsilon Bulletin* (State University of Iowa), January, 1949, p. 27–29.

and slightly over $330 for medicine. Since the fees collected represent only a small fraction of the total cost (about 19 per cent before the war), some would insist that this small contribution on the part of the individual be continued. But even if all fees in these colleges were eliminated (the President's Commission suggested this step through Grade XIV), the student would continue to face major expenditures for maintenance, books, equipment, and incidentals, which would in many cases prevent him from continuing his education.

The fees collected by the privately operated institutions are, of course, considerably higher than those for the publicly supported. Before the war, private colleges and universities obtained more than half their income from fees, and in 1947 about three-fourths. In 1946–47 the average annual fees varied from about $300 for colleges of liberal arts and science to $530 for dentistry and $560 for medicine.[5] Even were such schools to find it possible to reduce their fees to an average of $300 per year—and this is doubtful—this amount, coupled with the heavy additional costs mentioned, would prove to be an impossible barrier to many educationally qualified individuals.

It is suggested that the only real solution to the economic barrier is to be found in a greatly expanded and improved program of scholarships and fellowships designed to cover a major portion of the total costs of higher education, and available in sufficient numbers. At present such aid is completely inadequate to provide either the minimum number of grants necessary or the minimum amounts essential to a satisfactory solution of the problem. In 1941, the United States Office of Education reported that 5 per cent of the students enrolled received such aid; that the average scholarship was $165, and the average fellowship $400. Data collected from other sources indicate that the same situation existed in 1946–47.[6] As Federal support of veterans' education gradually diminishes, the pitiful inadequacy of our present scholarship and fellowship facilities will become more apparent.

THE answer lies in the development of a fully co-ordinated pattern of scholarships and fellowships involving the co-operative efforts of state and federal governments, industry, the private institutions, and the public colleges and universities. The public funds, both state and federal, should be administered through a state committee appointed by the chief educational officer of the state and including in its membership representatives of the private and the public institutions, the secondary schools, and the laity. This committee should have full responsibility for assigning the scholarship and fellowship funds to qualified individuals in the amounts they deem necessary within broad legislative limits. The awards themselves should be based upon ability alone, but the amount of the grant-in-aid should be determined by such factors as need and the total cost of the educational program to be pursued. The grant should go to the individual to be used at any accredited college or university, public or private. The President's Commission recommended an average scholarship

[5] President's Commission, *op. cit.*, Vol. II, p. 17.

[6] *Ibid.*, Vol. II, pp. 46–47.

for Grades XIII through XVI of $400 annually, and fellowships of $1,500 for graduate and advanced professional students.[7] These amounts seem proper, except that the writer also would vary the amount of the fellowships in terms of the individual situation, rather than standardize them at $1,500. Should there be 4,600,000 students enrolled in formal educational activities beyond the twelfth grade in 1960, government sources could well devote as much as $400,000,000 annually to this enterprise, with a major federal contribution supplemented by state allocations where possible.

This public program, of course, should be supported and supplemented by individual institutions which have funds available for such purposes. Such an extension will be particularly necessary in the private schools, where the costs to the student will remain high, and where additional help will be necessary if such institutions are not to become available only to the upper economic groups. It will be necessary also to integrate the assistance provided by industry, particularly in the graduate areas. While each school will want to manage its own program of scholarship aid, the entire activity, if it is to succeed in eliminating the economic barrier, must be integrated in a comprehensive plan designed to assist the qualified individual to attend the institution of his choice.

One further word about the basis upon which an individual should qualify for such support. It is most important that criteria other than those related to highly verbal types of learning be used in assigning grants-in-aid. While a minimum standard of general learning ability must be established for such appointments, provision must be made for those with special ability or aptitude to qualify for continued study. To achieve this, it will be necessary to develop selection techniques and methods related to the educational goals as well as the educational attainments of the individual student.

IF THE time at which most youth leave school is to be extended to the end of Grade XIV, it will be necessary to provide at the undergraduate level a much greater variety of educational opportunity than is generally available at present. This broad program can be achieved either through efforts of the institutions now in operation to be "all things to all people" or through the development of new types of schools to meet some of the needs. It is to be hoped that the latter arrangement will prevail, and that all institutions will resist the temptation of constant expansion.

Chancellor Hutchins quotes Eustace Percy as saying that

> the real "problem" of universities today is that miscellaneous expansion is so temptingly easy. An institution which, in addition to all the standard subjects, is already pledged to special excellence in naval architecture, marine engineering, pediatrics and dentistry might be wise to content itself with consolidating its ground. If it attacks new objectives . . . it runs serious risk of educational disintegration.

Mr. Hutchins takes justifiable pride in reporting that "so far the University [of Chicago] has been able to resist the temptation to miscellaneous expansion."[8]

[7] *Op. cit.*, Vol. II, pp. 52–53, 56.

[8] *The State of the University*. Chicago: University of Chicago Press, 1946. pp. 3, 6.

There is a limit to wise expansion even in the large and complex universities, but to yield to such inviting developments in the smaller units is disastrous. In the future there should be a strengthening of the present discernible efforts directed toward a narrowing of the multitudinous goals from which an institution must make a choice, and a concentration of function around these more definitive objectives. Not only does such concentration add quality to the educational experiences provided but it avoids the danger of financial collapse involved in repeated expansion into new fields. A like temptation exists for development in a vertical fashion. The junior college wants to become a four-year institution, and the four-year school desires to take on graduate work. Departments which have done well in preparing undergraduates are sorely tempted to give the Master's degree; those carrying the first graduate year with real distinction must constantly fight off pressures to grant the doctorate. The danger lies not in the unwisdom of further vertical development, but in the fact that too often such expansion is undertaken without assurance of full and adequate facilities, material and human. Too often, when such action is taken, the school renowned for its fine undergraduate program becomes a mediocre institution at all levels, and the junior college which has done so well at the lower level becomes merely another college.

The future should find greater emphasis placed upon regional planning as a way of meeting the needs of an area for a variety of educational programs. A beginning in this direction has been achieved in connection with library acquisitions, but the idea should spread to other areas of academic interest. Particularly in the more expensive fields of instruction and research such as medicine, social welfare, and engineering, costly and limiting duplication should be avoided through careful regional planning and assignment of function. In this way, programs can be developed to serve the entire region, and as a result they can be made stronger and better in every way. While institutional charters and state laws may make such developments difficult to achieve, we have yet to see many wholehearted efforts directed at overcoming such obstacles. In the few cases where they have been made the results have been gratifying.

NO DISCUSSION of the future of higher education is complete which does not present the financial implications of the program suggested. One of the unfortunate but inescapable consequences of education for life in a democracy, if the program is to be effective, is the heavy and inevitable burden of cost. The expenditures per person are high, and the number of persons to be educated is large. The President's Commission estimates, for example, that an adequate program could be provided for the 4,600,000 who should be enrolled in higher education by 1960 at the cost of approximately $2,500,000,000 annually, exclusive of capital outlay and funds for an adequate scholarship-fellowship program.[9] Of this amount, approximately $500,000,000 would be spent by the private institutions in educating the nine hundred thousand enrolled there, and the rest by the

[9] *See* Footnote 1.

public institutions which would of necessity instruct the remaining three million seven hundred thousand.

Most institutions will find real difficulty in obtaining the income necessary to provide for such expenditures. This predicament will confront the publicly supported as well as the privately supported colleges, and at the moment it is hard to determine just where the greatest and most stubborn problems will arise. However, one of the difficulties faced in common by both is loss of income as the veterans complete their work. For the fiscal year ending June 30, 1947, the Federal Government paid institutions of higher education fees amounting to more than $300,000,000, or about 30 per cent of their total income. Those privately supported received about $172,000,000, or better than 35 per cent, and the public institutions about $129,000,000, or 25 per cent, of their total revenues from this source. Gradually this source of income will decline until eventually it completely disappears, and it must be replaced if the colleges are to continue their operations.

If those privately supported spend approximately $500,000,000 annually for current operations (their expenditures were about $480,000,000 in the school year 1946–47), where will they obtain the funds to balance the budget? Assuming nine hundred thousand students, approximately the present enrollment, and an average tuition charge about midway between those of 1939 and 1947 ($300 per student), the income from this source would be $270,000,000, or about 53 per cent of the total required. If philanthropy, including endowment income, were to provide the same amount of income as in recent years, this would mean another $100,000,000 annually. After adding about $36,000,000 which could be anticipated from public and miscellaneous sources, there would remain an annual operating deficit of approximately $100,000,000.

Obviously, the privately supported institutions could eliminate this deficit either by reducing the expenditures and the quality of education or by increasing the income from fees, public sources, or philanthropy—a distasteful dilemma, no matter what the decision. The President's Commission has suggested that it appears possible, even under present trying conditions, to anticipate a doubling of philanthropic support, and, of course, this would solve the problem. To increase fees would be to add another rail to the economic stockade and should be considered a last resort.

The projected 1960 operating bill of the publicly supported institutions will total slightly over $2,000,000,000, if they are to serve 3,700,000 students. If all fees are eliminated in Grades XIII and XIV, as suggested by the President's Commission, and if fees at the higher levels are rolled back to their 1939 levels (an average of $105 per year), $177,000,000, or 9 per cent of the total, would come from tuition. If the states contribute approximately .5 per cent of the total income of all their people, almost $1,000,000,000, or about 50 per cent of the necessary funds, would be derived from this source. The enormity of this requirement in state support is indicated when the total is compared with the $151,000,000 contributed by the states in 1940. After adding $206,000,000 from the Federal Government under the assumption that this unit would continue to support higher education

at its pre-war rate, and another $74,000,000 from philanthropy, local governments, and miscellaneous income, there remains for the public schools an annual deficit of about $550,000,000, which just about equals the total cost of all higher education, public and private, in 1940.

This deficit, too, can be eliminated either by reducing the cost (and consequently the quality) of the program or by increasing the revenues from one of the major sources—in this case the state or federal government or the student. The states can hardly be expected to go beyond the increase of approximately 600 per cent over their pre-war contribution which is already anticipated. The deficit could be reduced by $250,000,000 if students in Grades XIII and XIV paid fees; but it certainly would be unwise to go further in tuition increases, and this would leave a deficit of approximately $300,000,000 annually.

IN ATTEMPTING to find a way of avoiding the deficits facing both the private and the public institutions in the years ahead, we are tempted in common with other agencies to request the Federal Government to assume the load. The writer agrees with the position taken by the President's Commission that direct federal grants should be limited to publicly supported and controlled institutions. A part of their explanatory statement follows:

> Sound public policy demands, furthermore, that State and local public educational bodies be able to exercise at all times the right to review and control educational policies in any institution or agency for which public monies are appropriated and expended. Public responsibility for support of education implies public responsibility for the policies which are supported. It follows, therefore, that the acceptance of public funds by any institution, public or private, should carry with it the acceptance of the right of the people as a whole to exercise review and control of the educational policies and procedures of that institution.[10]

Those who believe wholeheartedly in the wisdom of continuing the private institutions of higher education as a strong force in our nation, as do most educators, find themselves in sympathy with a statement of President Snyder of Northwestern University concerning the broader issue involved in such assistance:

> At this point someone may say, "Why not turn to the Federal government for aid?" . . .
>
> My answer to this is brief: to avoid subjecting the University to government dictation. A privately controlled university like Northwestern can make a larger contribution to the welfare of society if it is entirely free to choose its own ways of making that contribution.
>
> . . . . . .
>
> . . . The trend towards an increasingly state-dominated education is clearly apparent. Many people welcome this trend, and happily forecast the day when the privately controlled institution, with its high standards of selection and performance, will have been submerged in a rising wave of tax-supported junior colleges, community colleges, and regional universities.
>
> . . . Privately controlled colleges and universities are making such large contributions to human welfare that society will not permit them to be seriously injured. The funds they need will be forthcoming from private sources, as they have been in the past.[11]

[10] *Op. cit.*, Vol. V., p. 58.

[11] "Report of the President for the Year 1947–48," *Northwestern University Information*, XVII (February 7, 1949), pp. 5, 22.

Even in the case of public institutions, each state should make the fullest possible effort to finance its educational actitivies before turning to the national government for direct assistance to colleges and universities. The Federal Government should provide aid in the form of scholarships and fellowships, assistance in the construction of temporary and possibly permanent housing facilities, and grants for research and service related to the general welfare, before moving toward further direct general support. On the other hand, the great variations existing among the states in ability to provide adequate support for education cannot longer be ignored, and this fact alone justifies modest grants to equalize educational opportunity at the collegiate level. If $300,000,000 to $500,000,000 annually were devoted to this purpose, the public institutions could balance their budgets without sacrificing the quality of the work offered. If such funds were distributed among the states on an equalization basis, and if the appropriations clearly recognized the responsibility of the states for the administration and control of their educational programs, there should be little fear of federal domination.

THERE is little reason to assume that the next twenty-five years in the history of higher education will be any less eventful or dramatic than the past quarter-century. There is every reason to assume that the years ahead will be difficult ones for the colleges and universities, and that the problems to be solved will be many and varied. Enrollments, following a possible plateau for the next few years, will continue upward at an accelerated rate. Costs will continue to mount, and the task of obtaining adequate support both for privately and for publicly supported institutions will become even more arduous. The efforts to adapt instruction to the needs of a larger proportion of the college-age population will encourage the development of new and different institutions and educational plans. Whether this demand for new services is met through the development of new schools or by broadening the scope of old ones, it is fervently to be hoped that stubborn resistance will be encountered when such evolutions are based on false educational tenets or inadequate financial support. There is no need in this nation for additional weak or mediocre institutions, and expansion of this sort can only serve to create rather than solve problems.

Greater emphasis must be placed upon quality in all institutions—quality in the educational experiences provided and quality in the results demanded. If the people of this nation are to commit themselves, as appears likely, to provide education for each individual to the extent that his abilities and efforts justify it, they must at the same time be required to commit themselves to paying the price necessary for the success of such a noble idea. To do otherwise would be to make mockery of our efforts and to doom in advance our attempts to make our nation strong through the development of men and women prepared to live in a free society.

# Intellectual Standards Are Not Enough

By FRANK GLENN LANKARD

*Moral Values Must Be Inculcated*

THE Second World War made some startling revelations about our educational system. The Army, for example, found it necessary to establish orientation courses to help soldiers understand why they were fighting. It is true not only that millions of our fighting men were unable to explain the meaning of fascism or the underlying causes of the war but, worse still, they did not appear to be greatly interested, even though they were about to risk their lives to eliminate these dangers. It would seem that a sense of social responsibility was strangely lacking.

This paper is no plea for any lessening of our intellectual standards, which are, on the whole, deplorably low and should be improved; it does contend, nevertheless, that intellectual standards in college, however excellent, are not enough. Academically, we use the concept "intellectual standards" as measurements of the grasp and comprehension of facts and materials quite apart from their ethical and moral implications and consequences. A student in the social sciences may be able to repeat the roster of the presidents of the United States, trace the important campaigns of our several wars, and grasp the factual information of our history, and still not be a safe citizen in a democracy or an asset to international understanding. In the past fifty years we have witnessed an unparalleled growth of scientific knowledge, but this mastery of science has not increased our reverence for human life. An engineering student may be cognizant of the stresses and strains of materials but have no idea of the real impact of technological science on human life. Again, it is possible that scientists capable of producing nuclear fission may have no concern for what this phenomenon may mean to the human race.

Some educators believe that a college exists for the intellectual life alone. They regard it as the business of the church and other moral agencies to foster the moral and religious life, and the business of the college to guide and stimulate the intellectual life. These voices appear to forget that life is a unity. A student is not intellectual today and moral tomorrow. When he reacts to a problem, he reacts with the sum total of his personality. Those who think of the college as a place of intellectual culture only—or even primarily—forget the fact that the college has the student during four years of the formative period of his life, the years during

which he grows from adolescence to maturity. To believe that a student can develop his mind apart from his character or his personality or his health is absurd psychologically, futile educationally, and dangerous in all ethical and moral relations, for the reason that such a view overlooks the fundamental conception of education as unified growth. Hence the college should strive for the development of the well-rounded man: the intellectual, the physical, the social, the moral, and the religious attributes developing at one and the same time.

It would be well, perhaps, for the sake of a working hypothesis, to define the purpose of education as that of helping young persons to achieve some mastery of their heritage and, ultimately, a degree of maturity which will prepare them to carry out the responsibilities of citizenship in a democracy.

THE early American colleges, Harvard, Yale, William and Mary, and others of the colonial period, were founded for the express purpose of preparing men for the church. These colleges, although vocational in nature, were not trade schools or professional schools in the sense that they offered a detailed training in the preparation of sermons, the drawing up of church budgets, the fine points of pastoral calling, or the use of the rituals of baptism, marriage, and burial. These colleges, as we see it, had a double aim. They existed, first and fundamentally, for the development of character in the citizenry; and, second, they offered the students a curriculum which they regarded as the best instrument for the development of character.

We need to recover the ideal for which our forefathers were striving. They aimed to found and support colleges for the creation and development of character. Let us admit that it was character as a preparation for the next world. We need that same intense interest in character and good will for this world. In our day we know perfectly well how to destroy civilization. What we need now is men and women who have the will to save it. It is not a mastery of things or a knowledge of science that motivates a passion for freedom for ourselves and for others. Only ethical and moral considerations will furnish this motive power.

Some of the keenest minds of our generation are calling for a renaissance of interest in ethical and moral ideals. In an address at Wagner College, Harry J. Carman, a lifelong student of history, recently dean of Columbia College, said, "If we are to have a sane and just postwar society, there must be great spiritual appreciations and adjustments." Speaking at Wilson College, Herbert Hoover voiced the same thought:

> The colleges have a great obligation courageously to restore our moral and spiritual losses from the war, to renew our ideals of freedom, to regain our sensitiveness to wrong, and to provide the nation with a renewed supply of trained leadership. Unless we rebuild this new era on these foundations, it means that the war has been lost. It means more. It means that civilization is lost.

If we really believe in the necessity of a renaissance of ethical and moral standards, how may we in the colleges help to bring it about? We can, among other things, insist on individual responsibility. We can train for

the kind of discipline which is needed in a democracy and we can provide training in social responsibility. Let us consider each of these areas in some detail.

THE person who consciously aims at the development of a noble character or an outstanding personality will seldom achieve it. Character and personality, when pursued for their own sakes, have a highly elusive quality. Noble living comes as the natural result of meeting and mastering the stresses and strains of experience with high purposes in mind.

This principle gives us a clue to the achievement of ethical and moral values within the framework of which we find what I choose to call individual responsibility. Individual responsibility includes those qualities of character which we describe as punctuality, dependability, co-operation, thoughtfulness, respect for the rights and property of others, and the will for excellence of achievement. Here, again, we shall not be of the greatest service to our students by lecturing or exhorting them to develop qualities of personal responsibility. We shall need to help them achieve these qualities by example rather than by direct admonition.

Another way in which the college should train for desirable personal qualities is by steadily demanding high standards of excellence in all class assignments; by insisting upon punctuality, honesty, thoughfulness, and respect for the rights and property of others, for example in the handling of club funds and the administration of group and club meetings; and by expecting the conscientious fulfillment of other obligations as the college year unfolds and the students live their lives normally within the college community. American students need to learn qualities of personal responsibility quite as much as they need to learn mathematics, English composition, or history, and it is the responsibility of the college to insist upon these standards just as much as upon accuracy in the writing of papers or the mastery of factual materials.

Let us now turn to the development of inner controls. All of us will agree, I suspect, that we need some kind of discipline if democracy is to function smoothly and successfully. The real question is, What kind of discipline builds a democracy? Is it the goose-stepping regimentation of the Germany of Hitler? Is it the regimentation of ancient Sparta, or the more spontaneous free discipline of Athens?

Discipline, broadly speaking, is identified with outer and inner control. In a democracy do we not need to give greater attention to inner controls? In an article entitled "What It Takes to Be an Officer," Major General Ulio makes the following statement:

> I cannot overemphasize the importance of using persuasion rather than coercion in leading modern civilian armies. . . . Many men can drive others if given the authority, but only real leaders can gain the cooperation of their followers by knowledge, kindness, justice, and unwavering faith in the cause for which they are fighting.[1]

Some of us were thrilled by the spectacular performance of Colonel Carlson's Rangers in the recent war. Colonel Carson applied the principles laid down by Major General Ulio.

[1]Stewart, Maxwell S. *We Can Have Better Schools.* New York: Public Affairs Committee, Inc., 1946. p. 12 (Public Affairs Pamphlet No. 112).

One of the first things he did was to abolish all social distinctions between officers and men. The officers were forced to demonstrate their capacity for leadership, while the enlisted men were encouraged to assist in the planning of the program and were expected to develop self-reliance and teamwork. If Carlson's Rangers have anything to teach the colleges, it is that the college should provide situations in which students are trained in teamwork rather than forced to become the victims of discipline which is imposed from without.

WHAT can the colleges do to stimulate the growth of inner controls, bring about ready co-operation, and develop appropriate behaviors? May I illustrate? In an eastern college, a men's dormitory which had not always been the pride and joy of the students who had lived in it had recently been completely renovated, and when the students returned in the fall they were most agreeably surprised. There was a parking problem, however, which was still unsolved. When the new term opened, the house president made an urgent request to the residents of the dormitory to remove the cars to the university parking lot, pointing out not only the unsightly appearance of parked cars but, more especially, the danger involved and the complaints which had been made by the insurance underwriters. The response was immediate and complete. A willingness to co-operate on the part of the students and the wish to govern themselves in the light of desirable ends were far better controls than ineffective sermons from the Dean's Office or the forcible removal of the cars by the university truck. In developing what we call an inner discipline in students, we must of necessity give them information which will lead to an understanding of the problem, and our dealings with the students must create confidence or furnish a motivation that will call forth the will to act in the light of the desired ends.

My final suggestion is that we be concerned to provide a training ground for social responsibility. In the kind of world in which we live, knowledge and facts are not enough. If we are ever to pull ourselves out of the slough of despair that is about to engulf us, we shall need to develop certain ethical and moral qualities, one of which is faith in man and in the future. Such a faith presupposes the conviction that men are capable of living nobly. Furthermore, it means that the college must see the necessity of enlisting its students in activities and situations which will bring about an eager and active interest in world problems. The college is wise that provides for exchange students so that youth from many lands may come to live and work together. Perhaps no other experience is as valuable as this in cultivating understanding and appreciation. If a system of exchange students is not possible, there are other ways of training for world-mindedness. College students are often criticized for being provincial in their outlook or interested only in "dates" and social life. The students of many colleges attest the fact that a new day of social responsibility has arrived, and it is both wholesome and hopeful.

Many colleges are fortunate enough

[*Continued on page 222*]

# Contributions of the Liberal Arts to the Training of Engineers

By H. P. HAMMOND

*The Place of the Humanities in the Engineering Curriculum*

A TYPICAL engineering curriculum comprises three principal divisions of subject-matter in about the following proportions: one-third, mathematics and physical sciences; humanistic-social studies, one-sixth; technological studies, one-half. Thus, in an institution of university type, about one-half of the work leading to the baccalaureate degree is offered in the school of liberal arts, and one-half in the school of engineering. To express this in another way, one-half of the credits of an engineering curriculum would be accepted in most institutions toward satisfaction of the requirements of an Arts degree. While the engineering school specifies and administers the curriculum, and offers the technical courses which differentiate it from other collegiate programs, the school of liberal arts shares equally in the responsibility of offering the work, and thus of attaining its educational objectives.

The four most important subjects taught in the liberal-arts college that are studied by engineers are chemistry, physics, mathematics, and English. Engineering comprises the applications of these subjects, plus an appreciation of values and costs and knowledge of the human factors without which no undertaking can be brought to successful fruition. While this statement is literally correct, it should not be taken to mean that the training of an engineer should comprise merely the basic courses in mathematics, science, and English. Basic principles of science take on significance in relation to practical problems only when all the major factors controlling the validity of the applications are understood. These comprise the art of engineering practice which is taught in the professional engineering courses. The student of engineering, after completing his first cut across the several fields of science, progresses, therefore, first to the major applied sciences of mechanics, heat, electricity, materials, and fluids, and later to professional courses in design and construction, which involve use of these applied sciences. It is only when this progression from pure science to applied science and, finally, to uses of principles in problems of engineering practice has been completed that the full significance of the basic subject is understood, and mastery of methods of applying them is achieved. Thus, again, the co-ordinate responsibility of the faculties of arts and sciences and of engineering becomes apparent.

Among the more important recent trends in engineering education is the tendency to devote emphasis and time to the basic sciences and the humanities at the expense of engineering specialties. This trend was accelerated by two reports presented to the Society for the Promotion of Engineering Education in 1940 and 1944, respectively, which advocated strengthening of the sciences and the allotment of 20 per cent of the undergraduate curriculum to the humanities. These shifts give increased emphasis to the need for courses of the soundest and best sort in the schools of liberal arts, if they are to replace work of proved soundness in the engineering courses proper. There is an obvious attitude of "look before you leap" among engineering faculties in connection with the replacement of professional engineering courses by some of the humanities.

Another trend is the proposed increase in the duration of collegiate engineering education. This is taking two forms. The first is an increase of the undergraduate program from four years to five. While a few institutions have offered the longer program for some years, only four others have changed to the five-year plan recently. Altogether at present, so far as I know, only six institutions, not including those on the co-operative plan, require more than four undergraduate years. But widespread discussion of this proposal continues. A second form in which this trend is reflected is the rapid development of postgraduate work. This year there are approximately sixteen thousand postgraduate engineers to about forty thousand Seniors. This has resulted from a healthy evolutionary growth. Since a significant portion of postgraduate engineering study is in higher mathematics and physical sciences, this trend is of importance to the schools of the liberal arts, in which these subjects are often taught.

HOW may schools of liberal arts play their part in the effort to strengthen engineering education? Any such effort to bring about improvement in an educational program may be divided into three phases, which are here stated in increasing order of importance and difficulty: first, curriculum planning; second, selection and arrangement of subject-matter; and third, betterment of methods of teaching. What follows is devoted chiefly to the last two of these phases.

The fundamental aim of engineering education is the development in the student of the ability to work hard and effectively in whatever field of subject-matter he is studying. This aim by no means excludes the development of other qualities, such as imagination, appreciation of fine work, knowledge of the responsibilities of citizenship, and the like, but it is the great common attribute of all engineering activities, and its development must be so solidly established in college that it will continue in all phases of an engineering career.

The importance of this aim arises out of conditions imposed from without at both ends of the educational process. At graduation it is imposed by the requirements of the professional career the student is about to enter, in which unvarying accuracy, ability to work purposefully, clarity of reasoning and objectivity of thinking, unquestioned integrity, and fortitude in striving to achieve a goal in

the face of discouragement are prime attributes. These qualities are developed only by the soundest of educational processes. At the other end of the curriculum, its beginning, we are confronted with conditions growing out of poor secondary-school preparation. Thus, it is necessary not only to deal with problems of subject-matter but also to teach the student how to study and, especially, to train him to think in quantitative terms. One of the saddest cases with which a college teacher has to deal is that of the capable student who is failing because he has never learned to work and has never had to use his mind effectively in accomplishing difficult tasks.

Relatively few courses of the freshman and sophomore years are taught in the engineering school. Most of them are taught by the sciences and humanities faculties. The greatest desire of teachers of engineering, therefore, is that in these early years their students will form the sound habits of thought and work that they must form if they are to become successful engineers. It is all very well for members of the engineering faculty to attempt to impress this on students by talking about it in freshman orientation courses, but the only way students will ever acquire it is through the leadership exercised by their teachers of the basic preparatory courses, and the high scholastic standards they establish. I am very glad to testify that in the institutions with which I have been associated, the liberal-arts faculties have been successful in achieving this result. Of course, the engineering faculty shares this responsibility; it must be lived up to throughout the curriculum. But it is the liberal-arts faculty chiefly that starts the process and therefore has the greater opportunity.

With the statement of this broad primary aim, we may now discuss some more specific ways in which the liberal-arts faculties may aid in the strengthening of engineering education. These are not arranged in any logical order.

It is unfortunate but inescapable, apparently, that nearly half of the mathematics of the freshman year must be devoted to courses that ought to be completed in high school. This makes it difficult, within reasonable credit limitations, to take the student, by the end of the sophomore year, through the mathematics sequence which includes differential equations. To do this requires critical scrutiny of every division of subject-matter and the elimination of some of the less important topics and "formalities."

Aside from consideration of this quantitative element, engineering teachers look largely to their colleagues in mathematics to establish the sound standards of scholastic work and, particularly, the ability to think accurately in quantitative terms, to which I have already referred. Ability in mathematics is the most reliable single index which exists to measure aptitude for successful pursuit of an engineering career. Engineering teachers therefore look to the mathematics department for early assistance in separating the fit from the unfit.

Engineers do not desire the mathematics department to include work of *ad hoc* type, sometimes called "engineering mathematics," in the fundamental mathematics courses. They would prefer to have the soundest sort of regular mathematics taught. It

may be, and doubtless is, of some advantage to use, to a reasonable extent, illustrative problems that embody elementary engineering situations, but these illustrations should not divert the student from mastery of the fundamental mathematical processes.

It is rapidly becoming apparent that an increased allotment of credits must be provided in engineering curriculums for the fundamental physics courses. This is due not only to the recent advent of electronics and nucleonics as applied sciences but also to the need on the part of those going into the higher levels of professional and scientific work for more extensive and fundamental training in the physical sciences. If this requires decreased credit allotment to the undergraduate engineering subjects, that will have to be faced.

There is only one significant criticism that I would mention in relation to physics courses, namely, the tendency to systematize laboratory exercises so carefully and to prescribe routines of procedure so closely as to remove from the courses the educational value of the true experimental method. This criticism applies also, of course, to engineering laboratory work. I wish that both the engineers and the physicists could return to the earlier days of genuine laboratory experimentation. Perhaps we may have to scrap some of our beautiful equipment to accomplish this.

Engineers have little criticism of the first college courses in chemistry. It is true, of course, that, as the study of chemistry rests more and more on knowledge of principles and less and less upon acquiring factual information, the study of chemistry becomes more difficult and requires more time. Therefore, the same remark applies that was made in relation to physics.

Those who teach English to engineering students have one important factor in their favor and another equally against them. The favorable one is the virtually unanimous conviction, held by teachers and engineers in practice, that proficiency in the use of English is of paramount importance. The unfavorable factor is the general state of illiteracy that must be met and overcome in producing this result. The problem of the teacher of English is unique in that he must start not merely from scratch but from well behind it. Eradication of deeply ingrained habits and faults is as important in his work as is the development of positive abilities.

The battle of the place of English in the engineering curriculum has been fought and won, but it still remains, in many instances, to establish defined objectives of English courses, and to work out teaching methods best adapted to secure desired results. A committee of the American Society for Engineering Education presents the following statement of objectives of courses in English:

1. To develop the ability to formulate ideas; that is, to develop thought processes in word form
2. To train in correct English usage
3. To promote the development of the desire on the part of the student to read good literature

These aims are listed in order of importance. All are difficult of attainment, but they are all of paramount importance, and the effort to attain them must be correspondingly vigorous.

Perhaps the most important observation that engineers would make

on the teaching of English is that the aims of instruction are not set high enough, that too much emphasis is placed on drilling students in details of usage at the expense of developing the power to arrange and express ideas.

A disclaimer would be registered by engineers of the desire to have departments of English offer courses in "engineering English." I would also register a personal dissent from having them offer courses in report writing. I express this as a personal belief because I know that opinion in the matter is not unanimous. It seems to me that training in technical report writing should be handled by the engineering faculty. Certainly there is ample opportunity for it in the many courses in which the students write reports of diverse types. I believe it is a definite obligation of engineering teachers to train their students in proper methods of organizing reports, presenting the results of their work, and drawing correct inferences and conclusions; and of doing this neatly, attractively, and in clear and correct English. This obligation should not be transferred to the Department of English.

I group economics and history together because in engineering education they complement each other and lend themselves to unified treatment. These two fields of subject-matter present one of the most difficult problems of the entire curriculum for which, thus far, a satisfactory solution has not been found. Yet suitable treatment of the subjects is highly essential, if the student is to be able properly to relate himself to his economic and social environment and to appreciate the implications of his work in modern civilization. It is the virtually universal testimony of engineering students, graduates, and teachers that courses in economics are the least satisfactory portions of the entire curriculum. The solution of the problem of presenting satisfactory courses in these great and diversified fields in a limited time is not, of course, a simple one; but it is high time a concerted movement was organized to solve it.

Engineers, for the most part, do not advocate *ad hoc* courses in any of the major divisions of subject-matter taught by their liberal-arts colleagues, whether basic sciences or humanities. They do, however, hope for understanding and appreciation of the points of view, interests, and background of engineering students. If such an understanding is sensed by the students, they can be led to do almost anything that liberal-arts teachers may desire them to do. For the engineers are a competent group and, in general, they are receptive to new ideas and points of view, especially if these strike them as significant in or related to their professional careers. What engineering faculties hope for most on the part of their liberal-arts colleagues is that they will set as their primary objective in all their courses, whether sciences or humanities, the development in students of orderly habits of thought, clarity of expression, and the capacity to work hard and purposefully.

# Teacher Preparation at Air University

By EUGENE E. MYERS AND JOHN C. PETERSON

*With the Implications of This Program for Higher Education*

LAST fall two hundred recent graduates of the course conducted by the Academic Instructor Division of the United States Air Force Special Staff School of Air University entered the teaching profession. They have been assigned to duty as instructors and professors of Air Science and Tactics in the Air Reserve Officers Training Corps in American colleges and universities. Other graduates of this teacher-preparation course are assigned to instructional duties in the various schools of Air University and in other commands of the United States Air Force.[1]

The need for professional preparation of teachers at the college level, long recognized but blocked by tradition in civilian education, was brought into sharp focus in the United States Air Force during the Second World War. Changes of unprecedented range and rapidity in the technology, tactics, and strategy of aerial warfare suddenly expanded and intensified the need for thoroughgoing education and training of Air Force personnel far beyond existing educational facilities. Unhampered by tradition, the United States Air Force promptly met this challenging need by establishing the Air University as one of its major commands in December, 1945. The founders of Air University did not assume that highly competent subject-matter specialists are *ipso facto* competent instructors. Accordingly, the Chief of Staff of the United States Air Force appointed the Board of Visitors, comprising twelve outstanding civilian educators in America, who usually visit Air University twice each year, critically examining its curriculums and educational policies and practices and discussing its findings with the Commanding General and his staff. The Board also reports to the Chief of Staff, United States Air Force, on the conditions found at Air University. Its comments and recommendations are carefully studied at Air Force Headquarters and at Air University.

[1]A short Air R.O.T.C. Indoctrination School was conducted at the U.S.A.F. Special Staff School, Craig Air Force Base, Alabama, in the summer of 1947. With minor modifications, the curriculum used in this course was adopted for the Air R.O.T.C. Instructors School, which by agreement between Air University and the University of Alabama was held at the latter school, June 28 through July 23, 1948. The instructional staff for this program consisted of 19 highly qualified civilian educators brought in from the country at large. Evaluations of this program by its civilian instructors and by each of the eighteen small groups of students into which the class was divided for purposes of group discussion were highly favorable. In the official report of the school it was recommended that "the course should never be less than six weeks in length." Many features of the present Academic Instructor Course were tested and approved then.

In addition, an Educational Advisory Staff of 15 professional educators instituted a program of instructor preparation. By the end of two years the requirements for this program had expanded to such an extent that it became necessary to establish a teacher-preparation school, which got under way as the Academic Instructor Division of the U.S.A.F. Special Staff School, Craig Air Force Base, Alabama, in September, 1948.

The pressing need for a teacher-preparation program is intensified by the custom in the Armed Forces of transferring officers to new assignments every three years or oftener. It is unlikely that the demand for Air Force officer instructors skilled in the art of teaching can ever be matched by an adequate supply so long as this custom prevails. To this rule of transfer no single exception has been made save in the case of officers who are obviously master teachers.

The Academic Instructor Course, a six-weeks adult-level course in instructor preparation, opened in September, 1948, and has operated continuously through June 24, 1949, at which time the school graduated its sixth class and closed down for one month. Enrollment increased from 49 students in the first class to 140 students, furnishing a total of 527 graduates in the academic year, 1948–49.[2]

The instructional staff is composed of educationally qualified military instructors and civilian educators. An Air Force officer serves as director of the Academic Instructor Division and is aided by a civilian psychologist, serving as the associate director, who advises and assists him in all educational matters and serves as principal consultant in the school. A deputy director and the chiefs of six sections, Administrative, Educational Plans, Instruction and Training, Research and Development, Grading Procedures, and Reading Laboratory, function immediately under the director's guidance. Responsibility for the personnel comprising the various sections is delegated to the section chiefs. All members of the staff, including the director, teach in the school. This procedure keeps the entire staff in intimate touch with the school and its problems.

THE Academic Instructor Division recognizes that its course is a pre-service teaching experience and should be followed by in-service training and supervision by the school in which the instructor will teach. In the Air University command as a whole, the Educational Advisory Staff maintains a program of in-service training. However, the level of competency for which the Academic Instructor Division strives is the preparation of instructors who understand the processes, products, and principles of learning and know how to adapt these factors to the student's interests, knowledge, and objectives so as to utilize his directive force to produce the desired outcomes. A competent instructor can plan appropriate activities through which these outcomes can emerge. He is adept in observation and appraisal of the learner's performance and therefore able to evaluate, and when necessary redirect, his efforts so as to foster growth in the desired directions. He

[2]It is anticipated that seven classes will be presented during each year. Present planning calls for a student load of 120 students for five classes, and 140 for two classes, each year.

is resourceful in effective use of proper training aids, in setting up long-range, immediate, and intermediate objectives, and in guiding the learner toward their achievement.

The objective of the six-weeks course is to prepare selected officers for duty as instructors within the educational system of the United States Air Force and for such assignments as Air R.O.T.C. duty. The scope of the Academic Instructor Course includes problems of education and training in the Air Force; psychological background; directed experience in planning, preparation, and flexible application of methods of instruction and instructional aids; purposeful practice in reading, writing, speaking, and listening, as these communication skills function in individual presentation or group discussion; and some facility in the techniques and procedures employed in observation and evaluation of teaching performances.

THE course is designed primarily to develop basic knowledge, attitudes, and skills. It aims to improve competency in organizing and planning instruction and in evaluating the student's achievement, clarity in thinking, and poise and effectiveness in presenting and projecting instruction, preparation for supervision of instructional activities, and an awareness of the student's responsibilities in learning. The objectives of the course and the variable conditions under which it operates require that the curriculum and functional organization of the program be kept responsive to educational differences of the class groups, to their prospective duty assignments, and to changing educational requirements of the U.S.A.F. The present curriculum broken down into its principal categories is indicated in Table I.

In the orientation phase of the course, students are familiarized with the policies, procedures, and facilities of the school and station, and alerted to the significance of an assignment to duty as an instructor. A sort of two-way orientation is afforded by interviews arranged on the student's initiative with any member of the instructional staff; by interviews between the student and his adviser; by interviews in which five students are invited to meet the director, associate director, and selected members of the staff; by course critiques in which each student expresses anonymously his views concerning the entire course; and by requested but unsigned observations and comments. Orientation does not cease upon graduation; the school invites questions and discussion of problems encountered in the field. Comments and suggestions will be used in shaping the curriculum to the needs of the Air Force. One means of stimulating such interchange is a quarterly news letter, "The Academic Instructor," sent to all graduates. They also are invited back to hear guest lecturers and, since officers have flying duty and airplanes available, these invitations are more than mere gestures. Thus, the school not only follows up its graduates but also establishes a co-operative professional spirit.

Reading improvement consists of 19 hours of practice with the tachistoscope and reading-rate control board, preceded by an introductory lecture and an analysis of each student's reading performance by means of the opthalmograph and a group test of reading speed and comprehension. A final test at the same level of compre-

hension usually shows marked improvement in reading speed. This part of the program brings about a noticeable gain in each student's interest and morale. Studies are under way to determine the permanence of its outcomes and the flexibility with which the skills can be applied to purposes of silent reading.

Instruction and discussion techniques occupy large blocks of the student's time. Platform presentation includes instruction in the preparation and delivery of a lecture, the improvement of the student's speech, the production and effective use of the instructional aids, use of the question as a guide and stimulus to learning, and much guided practice in such teaching techniques as the lecture, lecture-demonstration, lecture-forum, briefing, impromptu talk, and so on. The nature of directed discussion is explained, preparation for the leading of discussion is given, effective procedures and techniques for problem-solving and developmental discussions are demonstrated, planning and preparation for directed discussion are arranged, and practice in

TABLE I

THE CURRICULUM AND NUMBER OF HOURS DEVOTED TO EACH CATEGORY

| PHASES OF INSTRUCTION | TYPE OF INSTRUCTION | | | | TOTAL HOURS |
|---|---|---|---|---|---|
| | Lecture | Conference | Problem | Laboratory | |
| (1) | (2) | (3) | (4) | (5) | (6) |
| Orientation | 3.5 | 1.0 | 1.0 | 10.5 | 16.0 |
| Reading-improvement program | 1.0 | ..... | ..... | 19.0 | 20.0 |
| Platform presentation | 6.0 | ..... | 26.0 | 13.0 | 45.0 |
| Directed discussion | 2.0 | 2.0 | 20.0 | 10.0 | 34.0 |
| Evaluation skills | 7.0 | ..... | ..... | 9.0 | 16.0 |
| Curriculum planning and supervision | ..... | 4.0 | 8.0 | ..... | 12.0 |
| Summary test of instructional proficiency | 15.0 | 2.0 | 15.0 | 22.0 | 54.0 |
| Total course | 34.5 | 9.0 | 70.0 | 83.5 | 197.0 |

TABLE II

TYPES AND UNITS OF INSTRUCTION

| Unit | Minutes | Nature of Performance |
|---|---|---|
| (1) | (2) | (3) |
| Practice Teaching— | | |
| I | 20 | Experience in briefing methods or in lecture demonstration |
| II | 5 | A talk to develop precision in thought and oral communication |
| III | 20 | A lecture followed by 10-minute discussion led by student instructor |
| IV | 5 | An impromptu talk |
| V | 40 | Experience in leading and participating in the problem-solving conference |
| VI | 40 | Experience in leading and participating in the directed discussion |
| VII | 50 | Final test of instructional proficiency. Student determines the method he will employ and is encouraged to use the method he believes will be of greatest use to him |
| Evaluation Laboratory | 180 | To guide the student instructor in the construction of a practical evaluation instrument |
| Curriculum Laboratory | 480 | To guide students in the development of a complete course of instruction |

directing is guided by staff members.

Seven hours of lecture and nine hours of laboratory work are devoted to an explanation of statistical methods necessary for construction of objective tests and other instruments of evaluation useful in the classroom.

Four hours of conference and eight hours of curriculum laboratory are devoted to supervision of instruction, curriculum planning, and guided student activity in the development of a complete course of instruction. The final test of instructional proficiency is the development, presentation, and evaluation of an instructional unit.

Practice experiences are all preceded by faculty explanations and effective master-teaching demonstrations. Instruction presented by a staff member is first given before selected faculty members who pass upon its effectiveness and suggest needed changes. The writers know of no instances in higher education where this technique is used with faculty members. Because officers are transferred every three years or oftener, an instructor is frequently needed to offer a unit of instruction new to him. To facilitate his efforts and ensure a good quality of teaching he prepares a complete instructional folder in accordance with a presentation directive furnished him by the school director. The folder includes a paper prepared by the instructor, which is a summation of his study and may include more than can be covered in one period, a lesson plan, and copies of materials to be distributed to the class. Tests which may be used, teaching aids to be employed, instructions for the classroom attendant, the assignment for the students, and other preliminary directions are enumerated.

THE various types and units of instruction are arranged in functional patterns and related sequences favorable to the development of insight and flexible mastery, leading up to the final test of instructional proficiency which comprises a practice-teaching experience in which the student gives a full fifty-minute presentation as a teacher. The entire program, including the curricular organization and operation, is based on the philosophy that instructor education and training should be concerned with the total teaching act, and that this can best be accomplished by guided and approximately varied practice experiences. Accordingly, arrangements are made whereby each student carries out the nine units of practice teaching and laboratory experience listed in Table II.

The entire course of instruction, of which the foregoing practice and laboratory periods constitute a large portion, is analyzed into various types of presentation, with title and objective listed for each type, and classified into seven phases of instruction (*see* Table I) which have already been described.

All student practice is critiqued in a constructive manner. Each student is assigned along with four others to a particular faculty adviser for guidance during the course. Two such groups (10 students) constitute a class group in practice-teaching Periods I, V, and VII, and the adviser for each group of five is a co-adviser for the remaining five members of the practice-teaching group. This arrangement establishes a permanent student-instructor relationship which permits each adviser to collect and pass on to every student appraisals of his in-

structional performances made by other instructors, and to help him to adjust his planning and preparation accordingly. To promote these counseling and tutoring functions, each student is required to obtain his adviser's approval in advance for topics to be presented in Practice Teaching V, VI, and VII, and encouraged to confer with his adviser, co-adviser, or any other staff member, including the civilian consultants or the director. These opportunities to consult their assigned or chosen advisers have proved beneficial to student adjustment and morale.

EXCEPT for one short objective test, the means of evaluating consist of faculty observation and rating of student performance. Near the beginning of the course these ratings serve chiefly as immediate check-ups to develop the student's criteria for self-evaluation and its improvement and to afford insight into the total teaching act and its component parts.

Evaluation for the records and an official report of the achievements of individual students are made by means of a rating form in two parts: Part *a*, an analytical instrument consisting of seven ten-point scales, dealing with various phases of teaching performance; and Part *b*, a single over-all five-point scale of teaching proficiency. Both parts are printed on the same sheet and marked by each faculty observer during a number of specified teaching performances. After all selected teaching performances are rated, the student's total score on Part *a* is calculated and assigned a level on a five-point scale. Depending upon the level at which a student's final score falls, his academic standing is reported as outstanding, above-average, average, below-average, or unsatisfactory.

Correlations between ratings given a student by different faculty members and between faculty and fellow students' ratings of his work are usually .7 to .8. This gives considerable assurance of the essential soundness of the evaluation program. In the hope of substantially improving the evaluation instruments and their use, a research program is under way.

To indicate probable future success, the ratings on Part *b*, the five-point over-all teaching-performance scale, are considered in connection with the data supplied in Part *a* and are converted into the following descriptive categories: highly competent instructor, competent instructor, for duty as an instructor, provisional instructor, and recommended for other duty.

The final phase of evaluation, the Analytic and Descriptive Appraisal of Students, is given in the Air Force directive as follows:

> The remarks should give as complete, specific, and systematic a descriptive picture of the officer as possible, consistent with the period he has been under supervision of the school concerned. The description should reflect his application, initiative, resourcefulness, knowledge, originality of thought, judgment, interests, ability to work with others, social presence, self-expression, and force. Special aptitude for any particular duty should also be included in this section.

This appraisal is forwarded to Headquarters, United States Air Force, where it becomes an integral part of the officer student's official record and has a determining part in his future appointments to duty.

FROM its earliest beginnings, the teacher-preparation program has been planned and developed with the co-operation of civilian educators, chiefly from departments or schools of education, psychology, or public speaking. These educators have appreciated the freedom of thought and action fostered by the administration, and the rich variety of problems afforded by the mission, scope, and purpose of the U.S.A.F. educational system under the leadership of Air University.

Generous opportunities are afforded for professional improvement. The Board of Visitors of Air University has recommended that the professional members of the staff maintain their professional growth through liaison with the national associations in the areas of their specialty. Every regular member of the Academic Instructor staff has attended at least one non-federal professional meeting in the area of his specialty during the past year. Most members of the staff have attended educational conferences of professional federal organizations outside the home base. Every member of the staff has participated in several professional conferences with educational specialists held at Craig Air Force Base. These home-base conferences have always been directed to educational problems of vital concern to the Academic Instructor Division staff and administration.

Certain educational-research projects have emerged from these conferences. Some of these problems will be attacked by Air Force Reserve Officers who hold professorships in education in American universities and who are brought in for temporary military duty. Other research projects are being carried on by staff members, and members of the Educational Advisory Staff are collaborating on some of these. Outside research agencies are to be invited to assist in some of the more technical problems. Samples of these research problems include: the preparation of a visual-aids handbook, the object of which is to enable the student to choose wisely among existing aids, and to fabricate visual aids with limited facilities such as exist in the field; study of materials on adult psychology for possible inclusion in the curriculum; a plan of procedure to follow in determining the effectiveness of graduates in their teaching assignments; research on data which indicate the relative effectiveness of various teaching procedures.

The Academic Instructor Division is investigating the possibility of improvement of instructor facility in evaluation by a rating-conference-rating technique, which consists of having the entire staff rate a student's teaching performance, using the Academic Instructor Division rating form. The ratings are tabulated, and the members of the staff confer on the agreements and disagreements. Such experiences have been most helpful in revealing differences in frames of reference employed by instructors and in establishing common criteria for use in future ratings.

The educational philosophy of the school recognizes the developmental character of learning and the consequent need of time for the organization and growth of meaningful experiences. Realistic recognition of individual differences and a conviction that equality of effort is compatible with wide diversity of accomplishment have led to provision for sufficiently rich and varied learning

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# A Review and a Rejoinder

## The Humanities in a Divided World—a Review

By J. DOUGLAS BROWN

It is virtually impossible to write a conventional review of President Conant's *Education in a Divided World*. As a series of lectures or essays, the book is packed with ideas on the whole range of education. Its greatest value lies in the stimulation it gives the reader to think things through for himself, rather than in any systematic and detailed program for action. In this respect it is good teaching.

The following remarks might be considered the reactions of one "student" to Mr. Conant as "teacher" in a seminar on the function of education, and particularly higher education, in the Western world today. Like any deeply interested participant, the writer has both agreed and differed with the teacher in an attempt to find for himself an acceptable working basis for decisions which cannot be delayed. Discussion along a score of other tangents could arise out of such a seminar, but extended analysis must be left to faculty groups in those precious moments when education, rather than course assignments, is the first item on the agenda. Mr. Conant says:

> I venture to conclude this discussion of the university by returning to my original proposition: the health of our universities depends on keeping a balance between the advancement of knowledge, professional education, general education, and the demands of student life. From time to time, every institution will be threatened by the overgrowth of one of these four elements or the atrophy of one or more. But by and large it seems clear that in the next few years it is the advancement of knowledge that will be in need of the greatest encouragement and support.[1]

[1]Conant, James Bryant. *Education in a Divided World*. Cambridge, Massachusetts: Harvard University Press, 1948. pp. 170–71.

The answer to Communism lies in the realm of values, deeply understood and made the basis of both individual and group action. Knowledge is not enough, whether knowledge of natural laws or of human behavior in this or earlier societies.

Therefore, the defense against Communism must arise in religion and that area of education termed the humanities. Without the values inherent in our religious and humanistic heritage, understood and accepted as a guide of action, knowledge in the fields of science and social science may be turned to purposes which are disastrous to our way of life.

It is a vital function of the American university to teach students humanistic values. To teach science without teaching the purposes for which science should be used is not only to betray a trust but to create new dangers. It is putting a high-powered instrument for material progress or destruction into the hands of spiritual and moral adolescents.

To perform its vital function in the development of America, the college and the university must re-emphasize the liberal education of the undergraduate through the enrichment of the humanistic elements in the curriculum. The students know that their greatest strength will be in the values they understand and accept, which guide their lives and judgments and will give them the confidence to work and fight for a just cause.

To serve effectively as the core of liberal education, the humanistic disciplines must be taught with a renewed sense of mission—a renewed dedication to the transmission of values from the great minds of the past to the growing minds of the present. Under the lingering influence of the German tradition, many university teachers in the humanities have gone "scientific" in the detailed analysis and classification of the anatomy of great

literature and art. In so doing, they have in some degree dulled their sensitivity to the eternal values inherent in the living expression of the past, and have lessened their ability to transmit these values with enthusiasm and inspiration. Other teachers of the humanities have tried to "sell" the great works of the past as if they were the props for the ego of a cultured gentleman—the Brooks Brothers' apparel of the well-clothed mind.

But only if the teacher of the humanities seeks to do more than be a specialized scholar and an outfitter of gentlemen, can he fulfill his function in liberal education. He must lead his students to an ever deepening understanding of the values and wisdom of the ages, expressed through the varied media of the humanities. He must seek to be a whole man himself so that he can help mold whole men through his teaching. His scholarship must seek to uncover an added element of truth, which, related to that already known, will truly enrich our understanding of the mind and spirit of man.

The humanities, thus revitalized, should receive strong support in assuming the great responsibility placed upon them in leading our defense against a materialistic world. This support should include the elimination of the term "general education" from our academic vocabulary and its replacement by the time-honored and truly meaningful expression "liberal education." With the coming of the expression "general education" something went out of the concept of the place of the humanities in the American university. They became just another commodity in the general store of knowledge with which the student should supply his mind.

But "liberal education" means something deeper than acquiring knowledge. It means the freeing of one's mind from ignorance, superstition, error, insensitivity, smugness, arrogance, selfishness, intolerance, and sacrilege, among other frailties of the uneducated human being. This is still the purpose of a liberal education. The humanities, as always, must take the central and commanding rôle. Neither science nor social science, no matter how humanely taught, can, or ever will, replace the basic contribution of the humanities to liberal education. A tree can be no stronger than its roots.

It is *liberal education* which we need today more than ever before. No substitution of "general education," with its neat packages of assorted disciplines, will ever meet the challenge which American higher education faces in a divided world.

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## Communications—a Rejoinder

By LEE ELBERT HOLT

The article by Kenneth Winetrout entitled "Communications—a Successor to Freshman Composition" in the February, 1950, issue of the JOURNAL OF HIGHER EDUCATION is based on a caricature of the college Freshman English course which is thought-provoking but which should not go unchallenged. Certainly, Freshman English as conventionally taught is not entirely efficient, but what college course of its dimensions is? And certainly, like any other course, it can be improved, but does the rather glittering "Communications" approach presented in this paper give any guarantee of more effectiveness than the methods now employed?

The article charges among other things that English teachers spend their time attempting to teach formal rules of grammar and rhetoric which are useless because they are soon forgotten. It is pretty well known, however, that few English teachers use the formal approach nowadays, and that most instruction is by the handbook method, whereby students look up and study only the rules covering their individual mistakes. Very

few college teachers require memorization of rules or put any stock in anything but the student's ability to perform, and I am aware of no current shedding of tears over split infinitives. After all, English teachers have known for decades that the reason for correctness in writing is to facilitate adequate communication; did it ever have any other reason?

A more serious accusation is that English teachers are narrow-minded, that they condemn those students who do not show the sensitivity to literature which they themselves value. This accusation is unfair to the capable college English teacher, who is at least as broad-minded and as tolerant of a wide range of talents and abilities as any other kind of teacher. I, and many another teacher of English, have frequently given high marks to students of ability and talent though they shared none of my enthusiasm for poetry and the drama. If we are worth our salt, we know enough to keep our private predilections out of our judgment of students in a course which in this country has rightfully been regarded as a course in basic skills rather than in advanced literary appreciation.

Furthermore, has the composition course been "used" by English departments, as this article would have us believe, to provide an easy living for young teachers while they work at specialized research and long for advancement? While this may have been the practice in individual cases, would college administrations put up with such corruption if it were widespread? And the suggestion is a calumny on the thousands of idealistic young men and women in the United States who have slaved away the best years of their lives in devotion to the poorly rewarded task of teaching Freshmen how to read, how to think, how to speak, and how to write. I have known scores of these teachers personally in two of our large Middle Western universities and I think they deserve better praise.

The cynically inclined point of view regarding Freshman English which lies at the root of the criticisms advanced by Mr. Winetrout springs from a certain blindness in his entire article: he fails to see the central problem which teachers of English composition have been facing for generations and have been struggling manfully to solve. Certainly, college students must acquire adequate command of the skills of communication if the world is to become a safe and happy place in which to live. But as certainly, they must have something valuable to communicate. And English teachers have traditionally tried to give their students a preliminary taste of the humanistic point of view in which they themselves believe, to give them an inkling of the greatness of the cultural heritage of modern man, so that when they talk, read, and write they may have the beginnings of mature standards and will not become mariners lost on a dark and stormy sea with no compass to steer by. Of what use Communications if there are no mature ideas to communicate?

But the modern "educationist" does not want to have anything to do with the time-tested methods of finding one's bearings; he has no faith in the humanities himself (or, we are tempted to believe, in anything except semantics and the art of plain talk) and so he is likely to belittle the teachers who do believe in them, to accuse them of incompetence in the field of Communications because their training goes beyond the technique of this "plain talk." He wants to take from them their most important work and put it in the hands of a group of Communication Experts who will teach only a skill. As though skill could be separated from the material to which it is applied!

Why should training in semantics and practice in the art of listening to the radio (the next step will be training in video!) be substituted for the basic orientation toward the humanities that has made Freshman English one of the most

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# · With the · Technicians ·

## *An Experimental Course in Aesthetics*[1]

The general or core course has recently been the subject of a good deal of discussion and experimentation. The stated purpose of such courses is to give students an integrated view of subjects which usually appear in the college catalogues as separate offerings of separate departments. Such subjects as economics, art, philosophy, political science, sociology, and physics have been treated all too often as if a man were indeed an unintegrated collection of many men labeled severally "economic man," "artist," "rational man," "political animal," "social man," "scientist." And, in fact, modern man does often reflect a split personality. It seems obvious that there is a direct relation between compartmentalized education and compartmentalized men. The most disastrous effect of this disorganized education is that an individual whose training has proceeded along merely compartmental lines and who has become a "chemist" or "economist" or "sociologist" is in no position to understand the other areas of knowledge or even the relationship between his special knowledge and other aspects of his own personality. The appropriate, if cruder, word for lack of understanding is ignorance. And we seem to have arrived at the paradox of education for ignorance. The conventional "distribution requirement" of courses is inadequate because it does not develop a recognition of the interrelations of the various aspects of human culture.

To counteract this kind of compartmentalization many colleges and universities have instituted courses which attempt to unite fields of learning. They usually fall under such general headings as humanities (including literature, philosophy, classics, and art), natural sciences (including physics, chemistry, biology, geology, and astronomy), and social sciences (including economics, sociology, history, and anthropology). These general courses have been organized on the principle that before the student is fit to become a specialist in any one field of endeavor he must see how the various facets of the total and complex human personality are related and how these facets have been polished and refined. It is as though the overhead light in a large room were a necessary aid in finding the switch for the direct light needed for special work.

Unfortunately it is easier to recognize deficiencies in traditional education than to remedy them. Even in institutions that have recognized deficiencies in their curriculums, reorganization has often broken down. The principal reasons have been failure to agree on what the common core of education ought to be, unwillingness of heads of departments to surrender vested interests and to co-operate in interdepartmental courses, and the

[1]Reported by Robert D. Mack, Assistant Professor of Philosophy, Connecticut College.

really great difficulty of finding persons adequately trained to teach general courses. Our system of graduate education has produced specialists of such delicate distinctions that the teacher of Eighteenth Century English, for example, is likely to be at a loss to discuss Jonson, Donne, or Crashaw intelligently, much less Greek tragedy or the *Divine Comedy*.

An illustration on a small scale of how this difficulty may be overcome is to be found in an experimental interdepartmental course in aesthetics offered at Connecticut College in February, 1950. The subject-matter of this course is restricted to a segment of the wider field of the humanities, but a segment which includes sculpture, architecture, painting, music, and poetry.

Frequently, traditional courses in aesthetics have lacked precise and telling illustrations, whereas courses in literature have been vague for lack of organizing principles or coherent explanatory theories, and courses in art history and music appreciation have often degenerated into a succession of illustrations that merely enable the student to distinguish the work of Michelangelo from that of Corot or that of Bach from Mozart. Also, the traditional courses have too often treated each art form as though it existed in a vacuum, totally independent of the other arts and of society. It is hoped that the experimental course outlined here will prove successful in overcoming some of these difficulties.

Four instructors, one from each of the departments of Philosophy, Art, Music, and English, co-operate in the teaching of this new course. Classes meet three times a week, and the four instructors attend all meetings. Fifty students have enrolled. Ideally the class would be sectioned into groups of not more than ten in order to permit fuller student participation in discussion, but sectioning is impracticable for technical reasons. Therefore, a combination of the lecture and discussion methods is used; approximately one-third of each class hour is devoted to questions from the class.

The course is conducted on the theory that works of art have certain values in common, and that these values can be objectively defined and illustrated in various media. The four instructors agreed upon the following procedure, open to revision as experience dictates:

*First*, introductory lectures on the meanings of aesthetic experience and aesthetic objects, by the instructor from the Department of Philosophy.

*Second*, the opening lectures will introduce the student to such aesthetic principles as balance, harmony, rhythm, and unity. Each of these principles will be further discussed and then illustrated from the various arts by the three instructors from the Departments of Art, Music, and English. For example, the aesthetic principle of unity will be critically examined by the representative of the Department of Philosophy. The general examination of the principle of unity will be directed at clarifying the meanings of the principle and explaining in what precise ways art objects embody the principle. By means of careful preparation of the material to be presented, this analysis will be restricted to one class hour. Then each of the other three instructors will be given a class hour to illustrate the principle as it is manifested in the art form in which the instructor is expert.

*Third*, the analysis will then lead to the consideration of general problems such as the relation of form to content in art,

meaning and truth in the arts, and the significance of different types of aesthetic theories, including voluntarist, emotionalist, hedonist, intuitionalist, and instrumentalist. Critical analysis of these problems will necessitate illustrations from the several arts, and it seems desirable that all the instructors participate in these discussions. Thus, in one class hour, the problem of meaning may be raised by the philosophy instructor and explained in relation to music, painting, and poetry by the other three.

*Fourth*, finally, the relation of art to other aspects of culture will be considered. The intention will be to give the student some sense of the continuity of art with the culture of the period in which that art is produced. For example, the art of the fifteenth century will be discussed and illustrated by all four instructors in connection with the political and economic factors which helped produce the Renaissance.

## *Workshop Techniques in an Economics Course*[1]

During the academic year of 1947–48 the writer taught one of the sections of the economic-principles course at Wesleyan University as a workshop. The experiment was designed to explore the possibilities of giving greater empirical content to theoretical analysis with a view to stimulating the student's interest in economic theory and making him more literate and articulate at an early stage of his college career. To this end, such techniques were used as field trips, instruction in use of library facilities and statistical sources, visual aids, and emphasis on the need for clear oral and written expression on the part of the student. The following report summarizes the most important results of the experiment.

The section consisted of fifteen students. No extra credit was offered as an incentive to join the workshop section despite the fact that considerable additional work and preparation for the course had to be expected. From the response to a questionnaire answered by members of the class after the completion of the experiment, it appears that the chief incentive to select the workshop section was the expectation of a more practical exposition and application of economic principles and the chance for more individual work and outside research.

The general framework of the course was determined by the use of Louis M. Hacker's *The Shaping of the American Tradition* and Lorie Tarshis' *The Elements of Economics* as basic textbooks. Specially selected documents and source materials with introductions taken from Hacker were designed to provide the transition from a social-science course (taken in the freshman year) to the special problems of the American economy. Tarshis' *Elements* served as an introduction to the more rigorous micro- and macro-economic analysis of the operations of the business firm, on the one hand, and the theory of national income and employment, on the other.

Preliminary to the preparation of special reports, each student assumed responsibility for the collection and arrangement, in a separate economics-workshop room in the library, of books and other materials dealing with special topics. With the aid of librarians and the instructor, the members of the group acquired within

[1]Reported by K. W. Kapp, Department of Economics and Social Science, Wesleyan University.

a relatively short time a systematic training in the use of library facilities. Thus the library became the meeting ground where the "three elements of the educational process—students, teachers, and books" were brought together in intimate contact.

One of the major purposes of the workshop experiment was to make the student aware of the problems involved in straight thinking and clear exposition of ideas as part of the process of learning the techniques of economic analysis. With this end in view the members of the class were given a set of suggestions concerning effective expression. Each student was then asked to select for special intensified study during the year five topics of particular interest to him, and to submit a written report on each subject. Each topic selected was to deal with a major problem covered by the course and to require the utilization of additional materials. The following are examples of essay topics selected:

An analysis of the issues involved in the controversy about the Second United States Bank (in connection with Senator Benton's speech from the readings in Hacker's *Shaping of the American Tradition*).

A survey of the factors which led to the establishment of the United States Steel Corporation in 1901 [in connection with the Commissioners of Corporations Report on the United States Steel Corporation (1911) from the readings in Hacker].

Price theory and business behavior [based on R. L. Hall and C. J. Hitch's article in *Oxford Economic Papers* (1939) referred to by Tarshis]. This topic was assigned in preparation of the empirical research on price theory and business practice discussed later in the paper.

Outlines of the essays were discussed in individual conferences with students; the completed essays were marked, and after further discussion those which were judged inadequate were returned for re-writing.

In appraising the results of these procedures, it may be said first that all students developed a keener sense of the importance and the requirements of clear writing and expression. Needless to add, the re-written reports showed signs of considerable improvement, and individual students stated that they had not been aware of their shortcomings in expressing ideas clearly and convincingly. In addition, the preparation of essays and reports had the further effect of intensifying the process of learning. The selection or assignment of special essays made it possible to choose the most important parts of the course for special investigation with the aid of sources other than the textbook. I am prepared to argue that work of this kind not only heightens the spirit of intellectual collaboration on the part of the students but provides opportunities for learning by carrying out a particular project. Also, the discussion of the paper with the individual student, in addition to demonstrating to him that his efforts were being taken seriously, in more than one instance made him aware of the difficulties which so far had prevented him from reaching a higher level of performance.

Topics for oral reports were suggested by the instructor in response to questions and problems raised in class discussions. They included the following:

The Remington Rand Strike in Middletown in 1936: a Case Study in Industrial Relations (in connection with labor problems covered in Hacker).

The Profession of the Economist (arising out of an address delivered by Mr. Bertram M. Gross, executive secretary, Council of Economic Advisors).

How to Make Use of Private and Government Publications for Business and Economic Analysis.

The use of oral reports by students as a teaching device in connection with an economics workshop at the undergraduate level presents special problems. In the first place, the presentation of these reports is exceedingly time-consuming, and, in addition, the average undergraduate is usually not in full command of the subject-matter and of the techniques of oral presentation. As a result, he may fail to establish the necessary intellectual contact with his student audience and usually finds it difficult to sustain the attention of the group. Or, again, he may attain these objectives by dramatizing the irrelevant. These shortcomings can be overcome only by the most careful guidance by the instructor of the student's preparation of his report.

Throughout the year continuous efforts were made to experiment with methods of visual presentation in the process of teaching. These efforts were not confined to the presentation of diagrams and charts illustrating essentially statistical material but included diagrams outlining the distribution process through the tracing of the flow of goods and money, and above all, the showing of M. Polanyi's analytical film Money and Unemployment, in addition to such films as The United States (British Information Office) and Behind the Annual Report (United States Steel Corporation).

This is not the place to appraise the value and practicability of visual aids in the teaching of economics in general or of particular film materials. Suffice it to say that visual aids are not self-sufficient teaching devices. Many of them must be carefully integrated into the course in order to produce the maximum of benefit for the student. Furthermore, unless students and instructor are fully aware that most visual aids can never take the place of analytical thought but can serve only as a tool designed to show visually a particular aspect of the theoretical problem under discussion, visual aids may become misleading.

Keeping these general considerations in mind, it is possible to draw the following conclusions from the experiment with various visual aids in the economics workshop:

Visual aids are likely to yield the best results if their subject-matter has been previously sketched or covered in class discussions.

In order to be effective as a teaching device, visual aids, including film material, need not be perfect in every respect. Shortcomings such as oversimplification, omissions, and even bias in interpretations are easily detected by an intelligent and prepared student group and actually may lead to a more balanced understanding of the problem at hand.

The selection, ordering, and previewing of appropriate visual-aid material is still an extremely time-consuming process. The establishment of a central agency for the appraisal of existing educational films in the social sciences under the auspices of a special Committee of the American Economic Association or the American Council of Education would go a long way in determining the usefulness or inadequacy of available visual aids; in this way the time spent by individual teachers in selecting and previewing educational films could be considerably reduced.

Finally, the workshop experiment was intended to provide an opportunity for inductive research related

to various aspects of economic analysis, such as research in the field of cost-price relationships and price determination, the location and concentration of the silver industry in Meriden (Connecticut), the history and growth of the insurance industry in Hartford, and investment policies of a large insurance firm in Hartford. Owing to limitations of time, only the first of these projects could be carried out. In this connection, students prepared questionnaires designed to explore the rôle which the theoretical tools of marginal costs and marginal returns either do or could play in actual business decisions.[2] The project culminated in a personal interview, and teams consisting of two students were responsible for the preparation tion of a report on their findings.

The preparation of the questionnaire, the personal contact with business managers, the arrangement of the interview, and the preparation of the report not only served as a challenge to the students' ingenuity but helped to give each of them a thorough foundation in the handling of the tools and concepts of marginal analysis.[3]

A general summary of the major results of the workshop experiment may be set forth in the form of the following conclusions:

*First*, the application of workshop techniques to the teaching of economics provides the student with an opportunity of learning by doing; the free choice of activities and the carrying out of specific projects on carefully selected topics and the conduct of empirical research related to specific phases of economic theory appeal to the student's initiative and intellectual curiosity and tend to strengthen individual study and scholarship.

*Second*, workshop techniques based upon close collaboration between student and instructor guarantee more continuous observation and guidance, and provide relief from the often rather stringent element which the exclusive use of textbooks and rigidly followed assignment sheets introduce into the process of teaching. The various techniques here described also make possible an intensification of the process of learning which can easily be adapted to the special requirements of individual students. In the light of the foregoing conclusions, it is of interest that the members of the workshop considered the slower tempo of assignments and the empirical research projects the most valuable features of the workshop experiment.

*Third*, without intending to appraise the results of the experiment in terms of the following figures, it may nevertheless be of interest to note that whereas only 9 per cent of the students who took the principles course decided to major in economics, 27 per cent of those who participated in the workshop section elected so to major. Of course, this figure might be biased by the fact that students with a special interest in economics elected the workshop section. At the same time, however, the workshop attracted many students who had already made up their minds not to major in economics and who expected to find the workshop section more empirical and less abstract than the usual principles course.

*Fourth*, no attempt was made to use the experiment as a basis for estimating the additional budgetary expenses involved in the systematic application of workshop and laboratory techniques to the teaching of economic principles. In the absence of

[*Continued on page 223*]

[2]The studies by R. L. Hall and C. J. Hitch (*Oxford Economic Papers*, No. 2, May, 1939) and by R. A. Lester on "Shortcomings of Marginal Analysis for Wage-Employment Problems" (*American Economic Review*, March, 1946) were used as a basis for the preparation of the questionnaire, which was then submitted to different firms in and around Middletown.

[3]At the same time, the whole project acquainted the student with recent criticism and defense of marginal analysis (for example, Fritz Machlup, "Marginal Analysis and Empirical Research," *American Economic Review*, September, 1946).

# ·The·Reporter·

THE award of ten annual competitive scholarships of $1,000 each in American colleges and technical schools has been authorized by the American Institute of Steel Construction. The object of the scholarship plan is to train engineers and administrators for the fabricated structural-steel industry, but recipients of these scholarships will be under no obligation to continue work in the industry after graduation. The first ten scholarships will be given in 1950. The educational institutions where the awards will be made have not yet been selected but some of them will be those that offer combined work-and-study courses. Individual structural-steel companies will provide additional scholarships on the same basis, working through the Institute. Several firms already sponsor an educational plan.

TWO awards of $400 each, to be granted on or before August 15, 1950, for significant research studies in education are announced by Pi Lambda Theta, a national association for women in education. An unpublished study may be submitted on any aspect of the professional problems and contributions of women, either in education or in some other field, by any individual, whether or not engaged at present in educational work, or by any chapter or group of members of Pi Lambda Theta. Three copies of the final report of the completed research study must be submitted to the Committee on Studies and Awards by June 1, 1950. Inquiries should be addressed to the chairman of the Committee, Alice H. Hayden, University of Washington, Seattle 5.

A DEGREE of Bachelor of Science with an interdepartmental major in the natural sciences will be offered for the first time by the College of Arts and Sciences of Saint Louis University this fall. Instead of the traditional major and related work, the major in natural sciences consists of 30 hours in the upper division of the University chosen from at least three of the following departments: chemistry, biology, physics, mathematics, geology, geophysics, and psychology. At least 10 hours, but no more than 15, must be taken in any one department. Besides the major in natural sciences, the student must complete an unrelated minor in some non-scientific field.

THE Wayne University School of Occupational Health has been discontinued because of lack of funds to continue it beyond the five-year period originally provided for.

THE Yale Department of Education has pioneered and is specializing in the co-operative school survey, sending its experts to various states and communities to help local educators and citizens establish better school facilities and programs. These school surveys are not mere "crisis studies." They are undertaken in expectation

of emergencies, with the goal of anticipating problems and working out practical solutions. Since the establishment of the Yale Department of Education in 1920 approximately fifteen studies have been made.

LAST year the average Illinois citizen paid $3.26 toward support of his state university. That was 7 cents from every dollar of state taxes, one-half cent from every dollar of all taxes—local, state, or federal—paid by Illinois taxpayers. Sixty-two per cent of the University of Illinois' operating income went for instruction and research, 10 per cent for extension and public service, 3 per cent for libraries, 16 per cent for operation and maintenance of plant, and 9 per cent for security benefits, administration, and general services. The average student pays the University $116 per year, or less than one-fifth of the cost of his instruction.

THE James H. McGraw Award in Technical Institute Education will be presented for the first time at the Seattle meeting of the American Society for Engineering Education in June. The award will consist of an annual prize of $500 in cash and an appropriately engraved certificate. Sponsored by the McGraw-Hill Book Company in memory of James H. McGraw, Sr., founder of the company, it is given for the purpose of recognizing and encouraging outstanding contributions to technical-institute education in the United States.

THE University of Delaware's Graduate Division, which has grown to be two-thirds as large as the entire prewar university, will become a School of Graduate Studies with a full-time dean in charge, effective July 1. All but three of the University's major fields of study are now available for graduate work. Fourteen areas have been added in the past four years, and the first Ph.D. degrees have been earned—in chemistry and chemical engineering.

A GIFT of $515,000 has been made to Hamline University by the Eliza A. Drew Memorial Fund, established by the late Charles M. Drew. Trustees of the fund have designated it for use in providing additional classroom or laboratory facilities. A prior gift of $300,000 from Mr. Drew went toward the construction of Drew Residence for Men, opened at Hamline in 1947.

APPROXIMATELY 50 fellowships, the majority covering tuition, will be offered by Radcliffe College for graduate study in 1950–51. Three awards carrying tuition, room, and board are available to nationals of foreign countries. Advanced study is open to women candidates for the degrees of Master of Arts, Master of Arts in Teaching, and Doctor of Philosophy. Instruction by members of the Harvard faculty is offered in 37 fields.

THE Catherwood Foundation of Philadelphia and the Austrian College Society in Vienna have recently signed an agreement for the exchange of art professors between Austria and the United States. Under this agreement, one Austrian and one American professor of art will be exchanged each year between the two countries. The Catherwood Foundation will pay the living expenses of the Austrian guest professor in the United States and the

traveling costs of both exchange professors; the Austrian College Society will pay the expenses of the American professor in Austria.

THE present foreign-student enrollment at Cornell University is the largest in its history—315 students representing 60 different countries. The group includes 275 men and 40 women, 54 per cent of whom are enrolled as graduate students. Forty-eight come from Europe, 91 from the British Commonwealth, 24 from the Near East, 108 from the Far East, and 40 from Latin America. Canada leads the individual countries with 66, China is second with 57, and India is third with 18.

PLANS for a six-weeks trip to Europe in March have been arranged by Michigan State College. It will be the most ambitious flight yet planned for the "Flying Classroom," which has made five regional and national flights in the past two years. Sixty educators, teachers, and school administrators will participate. Twelve European countries will be visited. The tour will be financed from scholarships provided by business and industrial organizations and individuals.

RECORDINGS of a series of instructional lectures on the fundamentals of selling have been prepared by the Institute of Educational Relations. The albums, entitled "Successful Selling," are being sold directly to major companies in the United States for their sales-training programs.

COURSE elections made by undergraduates at Princeton University for the second term of the present academic year again reflect the persistent trend toward the humanities which commenced at Princeton soon after the end of the Second World War. There are rising enrollments in the departments of philosophy, religion, English, classics, music, and art, and also in special programs in the humanities, American civilization, Near Eastern studies, and creative writing.

THE State Department's first official intern program has begun, with forty-four candidates selected from more than seven hundred college graduates and employees of the Department. Interns will participate in planned work courses and receive on-the-job training for nine months under the direction of the Foreign Service Institute. On successfully completing their services in 1950, they will be assigned to jobs in Washington or at foreign posts.

TO MAKE a long-range study of education for women, President Stoddard has appointed a committee of fourteen at the University of Illinois to investigate the fundamentals of women's education and make recommendations for possible changes.

A SURVEY of college costs at 250 of the country's larger colleges and universities has been made by the Connecticut Mutual Life Insurance Company of Hartford. The results of the survey have been published in a booklet, *It Takes More than Brains.* The average cost for one year of college is $1,281. This does not include maintenance during summer vacations, or such luxuries as fraternities, sororities, or cars.

According to college officials questioned in the survey, undergraduate

students should not do more than sixteen hours of paid work a week. The average hourly wage a student can earn today at college is 70 cents. This would mean that a good student could earn a maximum of $400 toward his education during one college year.

THE Third University of Kentucky Foreign Language Conference will be held May 11–13. "Ways to International Understanding" will be the general subject for consideration. Three lecturers will address general sessions, and more than one hundred scholars and teachers will read papers in sectional meetings devoted to a variety of languages. Programs may be had from the director, Jonah W. D. Skiles, Department of Ancient Languages, University of Kentucky.

STUDENTS at the University of Minnesota contributed $34,117 to campus charity funds during the academic year 1948–49, and spent 11,091 hours taking part in 372 charitable projects conducted by various organizations. These facts are drawn from a recent study made by the dean of students and his assistants.

IN RESPONSE to the need for qualified medical technologists, a special two-year pre-medical technology curriculum will be established next fall at Northeastern University. The program will be coeducational. It is hoped that in time it can be placed on a co-operative work-study basis.

THE degree of Doctor of Philosophy will be offered by Texas Technological College next fall. Students for the doctorate will be accepted in English and history in 1950, and in geology and chemistry in 1951. Other subjects will be offered as departments reach standards set up by the Southern Conference of Graduate Schools.

COLLEGE machine shops are far more up-to-date than those in industry, according to a McGraw-Hill publication, *American Machinist,* reporting on the first survey in the past quarter-century of university shop equipment. Three out of four college machines are modern, and only about 25 per cent of university shop equipment is more than ten years old. Forty colleges, which represented a cross section ranging from the largest institution to the smallest and had a total of 3,932 units of metal-working equipment, were studied.

THE University of Wisconsin will offer graduate work in its Library School for the first time next summer. The University faculty recently approved the granting of degrees of Master of Arts and Master of Science by the School. Formerly, only the degree of Bachelor of Library Science was offered.

BEGINNING next summer, Bowling Green State University will offer a non-thesis program leading to the degree of Master of Education. The new degree is designed primarily for public-school teachers and administrators. It will be limited to those who have achieved teacher certification by the time the degree work is completed. Instead of writing a thesis, the student will take comprehensive examinations in his major and minor fields of study and pursue an individual project designed to meet his needs as a teacher.

# ·Editorial·Comments·

## Yale's New Conservation Program

THE establishment by Yale University of a program of graduate instruction and research in conservation is a notable event. The program, which will begin in September, 1950, has been established in co-operation with the Conservation Foundation, founded in 1948 "to promote conservation of the earth's life-supporting resources." It will be open to graduate students only, will require two years of study and research, and will lead to the degree of Master of Science in Conservation. This will be the first time that this degree has been offered in this country. It is hoped that a similar program for undergraduates will be established later.

Paul B. Sears will be in charge of the program and will teach two courses: general ecology and the ecological basis of human society. Students will select other courses from those already in the Yale curriculum; among these will be plant and animal ecology, geology of soils, oceanography, biogeochemistry, forestry, and microbiology. A considerable part of the program will be centered upon study and research in the field; the Connecticut River Valley will serve as the outdoor laboratory.

This is good news indeed. It means the recognition by one of our oldest and most renowned institutions of the social and educational importance of wise use of the earth's resources. This is not only one of the most important problems that mankind faces, but also one which calls for the integration of knowledge from a wide variety of fields. Hence, it especially needs study on the higher-education and graduate level. It is a problem also that calls for much firsthand study in the field, which the Yale program will provide. The program will help meet the increasing demand from industry and government for well-trained conservationists.

Mr. Sears, who is to be in charge of the program, is an excellent choice. He has long been one of the leading educators and authorities in the field. He is, perhaps, best known for his book *Deserts on the March*, which was first published in 1935 and in which the author anticipated so much of the work of more recent writers.

In all of these respects the Yale program seems to be admirable. As one reads the news release announcing it, however, one question, or rather a group of questions, comes to mind. Does the program give sufficient attention to subject-matter in the field of the social studies—economics, sociology, political science, and history? Does it, for example, give adequate consideration to the effect of the recent and prospective explosive increase in the earth's population and the resulting pressure on its resources? Does it adequately emphasize the fact that modern applied science has not only meant an increase in the earth's population but also an increase in the demands each person makes on resources? Does it deal with the relation of violent fluctuations in the price of agricultural products, on the one hand, and of

federal price supports, on the other, to soil depletion? There is no indication in the news release that such matters are to receive much attention. The program was announced by the director of the Division of Sciences; no courses in the social field are mentioned. It may be that the circular containing the official description of the program will correct the impression given by the news release.

Certainly, any program that neglects the social field is inadequate. Conservation is human activity; it is living by human beings in proper relationship to their physical environment and more particularly to those features of it that are exhaustible resources. Hence, the study of conservation must consider human characteristics and actitivies and social institutions as well as the physical environment. Conservation, like geography, is as much a social as a natural-science subject.

R. H. E.

## Letter to the Editor

Seldom has the fraternity idea had as objective a critic as Kenneth Brown. Every fault he attributes to fraternities is present, and anyone who has dealt with them over a period of years would agree. They are, however, very human faults and, with little change of phrasing, they could be attributed, for example, to faculties as well. Are there not on every campus faculty members who place departmental above college loyalty, who "reach for prestige," who are indifferent to cultural interests? To admit this is not to excuse it, nor to say that such persons are so numerous as to set the college standards.

We have seen the impulsive act of a single unstable undergraduate draw almost equally impulsive judgments as to the merits of the fraternity idea. Implicit in most criticism (though not in this one) is that of the alumnus who retains his interest to the extent of being willing to serve his fraternity as a national officer. I know many such persons. Serving at considerable personal sacrifice and without compensation, they are respected, but not slavishly followed, by undergraduate delegates who by their votes determine national policies. They would be the first to agree that the colleges must hold their fraternity chapters to high standards.

I do not agree that the Amherst action was "courageous." In fact, I think it made no contribution to a very involved question. Time will be the judge.

I liked Mr. Brown's statement, "They will be judged, as they deserve to be judged, by the caliber of men and women whom they aid in training." When the College Alumni Secretary or Finance Director sets out to enlist alumni support of some worth-while endeavor, to whom does he turn? Is it merely because such people are extroverts and enjoy enlisting the aid of their fellows, or is it possible that training in a lesser loyalty has developed a greater?

Cordially,

J. A. Park
*Educational Adviser*
*National Interfraternity Conference*

# ··Reviews··

## *A Useful Compilation*

LIFE AND EDUCATION IN EARLY SOCIETIES, *by Thomas Woody*. New York: Macmillan Company, 1949. xx+825 pp. $7.50.

The author of this long and conscientiously written work states in his preface that " . . . there is still a lack of balance between physical and mental culture, both in school programs and among those who write of education" (page vii). This alleged situation he identifies as a vestigial survival of the asceticism characteristic of one facet of mediaeval life, a period which by inference he dislikes. He laments the lack of a "balanced history of man's educational efforts from the origins to the present time" (page vii), and modestly submits his book as a stopgap until a definitive study is available. A little more than a generation ago such a textbook would probably have started with classical civilization. Mr. Woody wisely turns instead to primitive ethnology, and immediately thereafter to the early river-valley cultures of the Nile, Tigris-Euphrates, Yellow River, and Indus, as well as those of the Iranian Plateau, all of which are treated from the viewpoint of *Kulturgeschichte*. The remainder of the book (about two-thirds of the whole) is devoted to Greek and Roman civilization and its immediate antecedents, with particular emphasis upon written ancient sources. Mr. Woody frequently implies that education today suffers from bookishness and one-sided attention to intellectual developments. Yet he also deprecates the value of the archaeological record as a revealing source: " . . . for of man's education we can infer relatively little from an examination of his weapons, tools and trinkets; and of his thoughts about his education we can know still less" (page 4). Here he underestimates the re-creative scholarship of competent cultural historians, of whom Jacob Burckhardt is among the first of a long succession during the past hundred years.

The book is documented with several thousand footnote references, largely to textual sources. With disarming lack of pretension, the author states his great debt to the original scholarship of others. The text moves objectively forward, very occasionally casting mild criticism upon mediaeval culture and the asceticism of early Christianity. The author gives the impression of accepting the Gibbonesque view of continued decay and disintegration in the centuries following Augustus, without seeming to make a thorough analysis of the new Christian *Weltanschauung* which was emerging, and of the fundamental causes behind it. If some men derived satisfaction or even pleasure from difficult intellectual work or from frugal spiritual living, and had a distaste for athleticism, who is to condemn them? And why? Mr. Woody detailedly recounts the increasing corruption of the larger portion of the Roman populace as manifested in extravaganzas of many types for their amusement, each a perverted form of athleticism. He seems to lack familiarity with the writings and especially the art of Early Christianity. He does not recognize sufficiently the new and highly significant cultural values which were gestating, phoenix-like, in the ashes of the Roman world. These are revealed with scholarly insight in two recent books: the first by the late C. Delisle Burns, *The First Europe* (London: Allen and Unwin, 1947), the second edited by Norman H. Baynes and H.St.L.B.Moss entitled *Byzantium* (Oxford: Clarendon Press, 1948). The early Christian, who shortly became an exponent of Mediaevalism, knew that the mind and spirit of man operate the body. Even Cicero had said, as quoted by Mr. Woody, that " . . . attributes of the body are not comparable in importance with the parts of the mind" (page 656). Seneca deplored athleticism for cultivated people.

In the sections treating of ancient Egypt, this reviewer noted a few points.

Herman Ranke, Alexander Scharff, and Hermann Junker are far more up-to-date sources than Gaston Maspero to quote for early Egyptian chronology (page 47). The Egyptians used Nile mud, not clay, for sun-dried brick (page 48). Quotations of Egyptian literature (for example, page 54) should be drawn from A. Erman: *The Literature of the Ancient Egyptians*, translated by A. M. Blackman (London: Methuen, 1927), which is not included in the full bibliography at the back.

Though science was not unconnected with ancient life and education, it is somewhat casually treated. The Edwin Smith surgical papyrus is not mentioned in the Egyptian section. Nor is any reference made to the first volume of George Sarton's monumental *Introduction to the History of Science* (Carnegie Institution of Washington, 1927).

This book contains much cultural history of ancient civilization. Read with care, it is a useful compilation, though manifesting a misconception of Early Christianity and Mediaevalism.

JAMES H. BREASTED, JR.
*Los Angeles County Museum*

## *Light on Important Issues*

ON GETTING INTO COLLEGE: A STUDY OF DISCRIMINATIONS IN COLLEGE ADMISSIONS, *by the Committee on Discriminations in College Admissions, Floyd W. Reeves, chairman.* Washington, D. C.: American Council on Education, 1949. xi+99 pp. $1.00.

FACTORS AFFECTING THE ADMISSION OF HIGH SCHOOL SENIORS TO COLLEGE, *by Elmo Roper.* Washington, D. C.: American Council on Education, 1949. lviii +312 pp. (A report for the Committee on a Study of Discriminations in College Admissions). $3.50.

In view of all the speculation about future college enrollments, it is fortunate to have at this time the results of a statistical study of the admission to college of the 1947 high-school graduates. It is helpful to know that this study confirms in substantial measure the analysis made by the President's Commission, and, especially, the predictions and conclusions reached by the New York Commission on the Need for a State University. The interpretation of the study and the more important tables are contained in the volume, *On Getting into College.* The page references in this review refer to this volume.

This is supplemented by the full tables and preliminary findings published in *Factors Affecting the Admission of High School Seniors to College.* The data were collected by Elmo Roper, who used trained interviewers of his organization to get answers to the twenty questions on the questionnaire. Two samples were taken of the 1947 high-school graduates: a group of ten thousand high-school Seniors, constituting a representative sample of white high-school Seniors throughout the country, and another group of five thousand high-school Seniors, made up of high-school Seniors in large cities only. Statistical procedures were used in checking the samples in order to determine whether particular conclusions drawn from the data would be valid. Unfortunately, this resulted in eliminating altogether any conclusions respecting Negro youth. The funds and time available did not permit the samples to be extended for this and other purposes.

The report sheds important light on several issues relating to college admissions, of which the following are the more important: the potential demand from youth for college; the extent of economic, motivational, and other barriers to youth who might qualify to enter college; and the extent and location of discrimination on grounds of religion.

In addition, valuable information is given relating to the percentage of the 1947 high-school class that applied to a college, the duplications, the acceptances, and various distributions by sex, by socio-economic groupings, by religious groupings, and by other classifications.

On the controversial question of discrimination against Jews, facts were assembled which are both heartening and the reverse. There is some discrimination against Jews. Only 56 per cent of their applications were accepted as compared with 67 per cent for Catholics and 77 per cent for Protestants (page 64). The discrimination occurs mainly among the

private colleges, and most frequently in the Northeast section of the country. It affects the two highest quintiles of Jewish students more than others. They usually apply to several institutions in order to get into one. On the other hand, the "home town" colleges and the public ones generally do not discriminate. Nearly twice as many Jews in proportion to their numbers apply for admission to college (page 13), and as large a percentage of the applicants are admitted as of Gentiles (page 64). The adverse effect of the discrimination is that Jewish students do not have the same opportunity to attend the college of their choice as do Gentiles. Although the practice of discrimination was found to be limited, the report does not minimize its seriousness.

The goal for total college enrollment set by the President's Commission has seemed to many educators to be too high. The present study indicates that the potential demand from youth is even higher than the goal of the Commission. Thirty-five per cent of the 1947 high-school graduates had applied for admission and 87 per cent of these were admitted (page 11). As many as 64 per cent of the graduates might have applied if financial and other barriers had been removed (page 43). A large portion of those who would not have applied were girls whose fathers were employed in factory work and service trades. The motivational and financial barriers keep many boys of low-income families from applying; but with changing concepts of the value of education and with the establishment of more public two-year colleges near the homes of students, it is reasonable to suppose that the demand from these boys—and probably the girls, too—will climb toward the percentage demand from higher-income groups.

Data are available in the two volumes which will be valuable in determining educational policy of other types. For example, it is surprising to note that 85 per cent of the youth had reached tentative decisions about their vocational choice (page 36). This figure seems high but it points to a motivational factor that may have relevance to curriculum construction and student counseling generally. Pertinent here, also, is the revelation that 72 per cent of the applicants from the lowest-quintile group were admitted to college (page 55)—the college presidents who have charged that the President's Commission has recommended a lowering of standards might well restudy those recommendations in the light of this evidence of the practices of the colleges. Several of the facts brought to light by this study strongly suggest the need for a more rapid development of two-year colleges of the public, community type.

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## *Not for Free Men*

A FREE MAN'S FAITH, *by D. Luther Evans*. New York: Oxford University Press, 1949. x+194 pp. $3.00.

Here is another plea for a return to religion to solve the problems and perplexities of today. Our concern for an adequate way of life, argues the author, expresses itself in a desire to understand the place in human existence of such basic ideas as personality, morality, community, and deity. But when we turn for an answer to these questions to academic philosophy, with its "critical and analytic methods," we find that while they lead us well on our way they do not provide the "intuitive and interpretive knowledge" which is necessary to "excellent and effective living." Consequently, as free men we must make the affirmation "that faith in *reason* and faith in *revelation* are both necessary for a constructive understanding of man and the cosmos" (page viii). With this as a premise, the author examines not only such basic religious concepts as prayer and immortality but certain social concepts such as the home, the state, and the school.

Perhaps the most conspicuous defect of the book is the author's failure, in spite of his most valiant efforts to the contrary, to keep revelation in its announced rôle as supplementary to reason. As one might expect, it will not stay in its place. Sometimes it is contrarational; for we find it disclosing a God in a world where "there is too much sin

and sorrow . . . for us to find . . . convincing assurance of divine love" (page 30). Sometimes it is supra-rational, and the arbiter of conflicting rational interpretations of the world; for it finds much greater congeniality with Hume's subjectivistic theory of causality than with one which conceives this as a natural process. And always, by its close alliance with mysticism, it claims exemption from the application of rational categories to itself. All this provides strong grounds for questioning the desirability of the author's proposal to make "the final and most comprehensive achievement in general education . . . religious in nature" (page 135). Why set as the highest goal of education the attainment on the part of the student of "a mystical awareness of the divine purpose and meaning of human and natural events" if this involves a frank abandonment of the rational tools by which he has achieved this level? In fact how can we ourselves educate him unless we have complete faith in these very tools?

The religious man will find much comfort in the book. It is well written and reveals the soul of a deeply religious man. But it will not produce converts. It is not for free men, as the author claims, but for men whose thinking is bound by certain principles which "free" men have dared to question.

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## *Report of the Wisconsin Conference*

Higher Education for American Society, *edited by John Guy Fowlkes*. Madison, Wisconsin: University of Wisconsin Press, 1949. vii+420 pp. $4.00.

*Higher Education for American Society* is a collection of thirty-nine papers delivered at the National Education Conference held at Madison in 1948 as part of the commemoration of the centennial of the University of Wisconsin. These thirty-nine papers are grouped under five headings and twenty subheadings corresponding to the topics discussed at the general sessions and round tables which constituted the conference. The five headings are: "Appraising and Planning Higher Education," "Problems in Higher Education," "Goals in Higher Education," "Personal Values in Higher Education," "Improving the Effectiveness of Higher Education."

Clearly, these are overlapping topics. Neither those who planned the conference nor those who participated in it failed to recognize that goals must be established before achievements can be appraised or the future planned, that "personal values" rank high among the goals of education, that improving the effectiveness of higher education is no mean problem. It is this overlapping of the several main subjects which gives some unity to a book which has nearly forty authors of different special interests, and which includes, on the one hand, generalizations about the nature of man and his relation to God and, on the other hand, particular judgments about the desirability of travel budgets to facilitate interviews of prospective faculty members and the relative merits of 3¼x4-inch and 2x2-inch projection slides as teaching aids.

The largest of the five divisions of *Higher Education for American Society* is the fifth: "Improving the Effectiveness of Higher Education." This section, which fills 170 pages, contains twenty of the papers. From these papers the reader may learn a good deal of what is being done to enhance the quality of higher education; and he will be encouraged to learn how much more self-critical some of our colleges and universities have become. Not this section alone, but the whole volume, attests a growing recognition of the value of institutional self-criticism.

The problems of higher education are not solved in the record of the Wisconsin conference, but some of them are indicated and some approaches to their solution are sketched. We need not complain of incompleteness—that there are other problems and other possible solutions. Some of the papers, however, reveal an excessive faith in material means; and this faith seems to dominate the whole. More money—more buildings, more subsidy for research, more teaching aids, and more faculty members—will make it easier for our colleges and universities to

do their job and may be indispensable if they are to do their job well. But it may also be possible for our colleges and universities to do better with the faculties, the buildings, and the budgets that they have. Perhaps our educational practice would improve if our educators were a little less "practical." The concluding subsection of *Higher Education for American Society*, on "Objectives of Research," indicates how practical we have become. It includes a brief paper on "General Aspects" of research in science and papers on the applied sciences of agriculture, sociology, engineering, and medicine, but none on the humanities.

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## *A Collection of Papers*

THE MEASUREMENT OF STUDENT ADJUSTMENT AND ACHIEVEMENT, *edited by Wilma T. Donahue, Clyde H. Coombs, and Robert M. W. Travers.* Ann Arbor, Michigan: University of Michigan Press, 1949. viii+256 pp. $3.75.

The fifteen scholarly papers in this volume were read at the Conference on Measurement of Student Adjustment and Achievement at the University of Michigan in June, 1947. The book was designed to disseminate current information on measurement and guidance among educators and to suggest next steps if further progress is to be made.

In the introduction, C. Gilbert Wrenn presents a significant review of the personnel movement from the point of view of concepts, organizations, procedures, and professional training.

In the section "Measurement of Adjustment," Percival M. Symonds and Murray Sherman describe a personality survey of a junior high school which might well give guidance workers leads for studying and improving their own school programs. Harold A. Edgerton discusses the use of measuring devices in the guidance program, citing the need for studies on the validity of these measuring instruments. Max L. Hutt evaluates methods of projective testing in relation to the school counseling program. He admits that their potentiality is high but states that thus far, however, their promise has been higher than their accomplishment. Wilma T. Donahue suggests that the ideal educational program for the guidance worker should provide a broad cultural background and basic knowledge at the undergraduate level, reserving courses in the skills and techniques of guidance for the graduate years, followed by a period of in-service training under expert supervision.

In the section "Measurement of Achievement," Irving D. Lorge discusses trends in achievement-testing and the increased emphasis on appraisal of understanding. Warren G. Findley evaluates large-scale achievement testing programs, indicating that they must always be supplemented by carefully prepared local tests. Harry N. Rivlin points out that teachers have an important rôle in making evaluation continuous and an integral part of the learning process. Arthur E. Traxler discusses diagnostic testing in relation to remedial teaching, giving conmuch emphasis to reading achievement.

In the section "Prediction of Success," Robert M. W. Travers reviews some 270 studies. His conclusions expose weaknesses in predicting success at different scholastic levels. Walter F. Dearborn points out that the family is largely responsible for student success. David M. Trout indicates that success is not measured in terms of academic achievement alone but in terms of broader life goals. George K. Bennett suggests the need for better measuring devices in guidance for technical occupations. He believes that guidance is often deferred beyond the point of optimum usefulness in an individual's career.

In the section "Research Programs for the Future," Clyde H. Coombs suggests a new approach to the study of measurement of human traits which may give objective evidence on the extent of integration of personality. Jacob S. Orleans proposes a guidance program for the future to include both psychological and vocational adjustment of all youth.

This book is recommended as a valuable reference for workers in the field of educational measurement who are responsible for the guidance of students.

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## *A Fine Idea*

PARTNERS IN PRODUCTION: A BASIS FOR LABOR-MANAGEMENT UNDERSTANDING, *by the Labor Committee of the Twentieth Century Fund.* New York: Twentieth Century Fund, 1949. ix+149 pp. $1.50.

This book embodies a fine idea which, all things considered, is very well executed. The idea, somewhat suggested by the title, is that, to get ahead with a tolerable solution of the so-called labor problem, the representatives of organized workers and of management should focus their attention on enlarging the already broad areas of mutual agreement, or at any rate mutual interest, rather than on nourishing their conflicts. It is an idea closely akin to that which has resulted in a suggestive series of studies of "The Causes of Industrial Peace" under the auspices of the National Planning Association.

The idea was executed by the Labor Committee of the Twentieth Century Fund (a tripartite group designed to represent organized workers, management, and the general public) with the staff assistance of Osgood Nichols. It seems fairly safe to assume that Mr. Nichols wrote the book and then members of the tripartite committee pulled and tugged until they had attained agreement or exhaustion. The final draft reflects something of this debilitating if socially salubrious process.

In seeking to locate areas of collaboration instead of conflict, the report first proceeds to isolate the four major goals of labor and management respectively. For labor it finds them to be security, a chance to advance, more human treatment, and more dignity on the job. For management the four fundamental goals are found to be the economic welfare of the company, good relations with its own employees, freedom to manage, and businesslike, responsible relations.

These goals are then divided into three categories. In the first of these categories—goals toward which it is clearly in the interest of management and labor to work together—are placed the goals of chance to advance and businesslike, responsible relations. In a second category of goals, where there is seeming conflict but potential agreement, the report places more human treatment, good relations with the company's own employees, freedom to manage, and more dignity on the job. The report finds that the only goals which generate real conflict are the workers' goals of security and management's goal to promote the economic welfare of the company. But even here it envisages potentialities of compromise.

As this reviewer sees it, there are more, and probably more irreconcilable, conflicts in goals than those with which this report deals. One, for example, is the labor leader's general attraction to political action by virtue of sheer weight of votes involved, and management's revulsion from such action, perhaps partly for the same reason. Another of the conflicts which cuts pretty well across all of those dealt with by the report is generated by the labor leader's occupational necessity to be militant. It is impossible, however, to press the critical points involved here fairly within the compass of a brief review. Besides, I have no particular appetite for doing it anyway. I would much prefer to record something that would serve to attract readers to this decidedly constructive approach and treatment of the critically menacing problem of labor relations. A reading of the book will reward both professionals in its field and lay readers.

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## The Youngest State University

ALVIN C. EURICH

[*Continued from page 176*]

dent and other members of the central administration to each institution.

Several studies have been made with a view to identifying any modifications of structure and revisions of policy among the units which might strengthen the working organization of the University. These have dealt with the powers and composition of the individual boards of trustees and

visitors, the financial aspects of unit administration, admissions practices, faculty appointments, and curriculum. The results of these studies are being used as the basis for legislation and planning directed toward a more effective University organization, which will bring added strength to the component parts and at the same time maintain their distinctive characteristics and enthusiastic regional co-operation.

THUS, in its first year, State University of New York has made appreciable and steady progress in providing additional facilities of higher education for qualified youth of the state. This is a formidable assignment. If, within the next ten years, the percentage of youth of college age attending two-year colleges in New York rises to the level already attained in California; and if, at the same time the number attending four-year colleges rises to the percentage prevailing in the Ithaca region of New York State, almost one-third of the youth of college age will be in college. This prediction is based on the reasonable assumption that facilities for higher education in the state as a whole will be about as adequate as they now are in the localities used for comparison. This is a minimum. It is a fact, established by experience, that demand for higher education increases with its availability.

To reduce the barriers to higher education for the qualified youth of the State is a unique opportunity. The scope of the undertaking is worthy of the Empire State. It deserves, and will require, the sustained application of the trustees, the administrative staff, the faculties; in fact, of every person fortunate enough to be engaged in it either directly or indirectly. It will demand informed public support, both at the state and community level. The challenge it presents is one that comes only once in a generation.

[Vol. XXI, No. 4]

## Intellectual Standards Are Not Enough

FRANK GLENN LANKARD

[*Continued from page 188*]

to be located where students may gain firsthand experience with other races and cultures, for in America there is a great assembling of many races and cultures. Each group has its distinctive problems and viewpoints. Our college students may not find it possible to visit Italy, Poland, Greece, or other countries, but many of them have easy access to groups of these backgrounds, and through them they may come to understand and appreciate many cultures and learn something of their contribution to the world.

Many church-related colleges will want to go beyond the program here suggested. They will seek faculty members of Christian character. They will offer courses in religion and religious education. They will provide chapel services which are religious in tone. Room will be made in the program for Religious Emphasis Week. They will co-operate closely with the college church and other religious denominations.

The ethical and moral program which has been suggested here sets forth a minimum of essentials. It is capable of supplementation in many

directions. It is feasible in any college regardless of its government or control. [Vol. XXI, No. 4]

## Communications—a Rejoinder

[*Continued from page 203*]

popular and valuable courses in many curriculums? English teachers would be foolish to adopt such parvenu substitutes wholesale without much more evidence than is forthcoming that they can accomplish what the traditional course has allegedly failed to accomplish. What, actually, has the study of semantics, even in the cleverly written and lucid popular books now on the market, to offer to the typical college Freshman who is already at sea in his world and needs a little positive guidance more than he needs anything else? Is there any excuse for filling up the minds of such youngsters with modern sophistications regarding the meaning of words—sophistications that are far from having won the approval of the most advanced students of thought—in place of the solid nourishment of plain and honest thinking as exemplified in a few genuine literary masterpieces?

In the last analysis, of course, the success of Freshman English or of any other study depends upon the character and skill of the teachers who present it, not upon the precise nature of the subject-matter or approach. A good teacher can make a certain amount of semantics and training in listening, reading, and speaking an exciting and valuable experience for the student; but a good teacher can do the same thing with the traditional subject-matter of a composition course, and with more valuable results. What is needed is imagination, enthusiasm, and a love for young people together with a certain richness of meaning in the material to be presented. Is there any reason to suppose that these qualities will come miraculously to birth in a staff that is given the magical name of "Communication Experts," is well paid, and is set up to operate apart from the traditions that have made the Freshman English course a worth-while experience for so many thousands of Freshmen?

The kind of criticism of freshman composition courses presented in Mr. Winetrout's article has often been advanced over the last two or three decades. It can serve a useful purpose by forcing the English teacher to take stock of himself and of what he is doing and to consolidate his position. But it may do grave damage if the reader takes its representation of the nature of the college composition course in good faith and uncritically accepts the substitutes which it proposes. [Vol. XXI, No. 5]

## *Workshop Techniques in an Economics Course*

[*Continued from page 209*]

precise estimates, it is possible to state that the cost of the project in additional time spent by the instructor was about 20 per cent to 25 per cent more than that spent ordinarily in the preparation for teaching the principles course. Students devoted approximately 25 per cent to 30 per cent more time to the work involved in the workshop. Part of the additional time spent by the instructor was used in the setting up of the workshop and library material, time which presumably would not have to be spent again. Generally speaking, it can be asserted with a considerable degree of confidence that the application of workshop techniques to the teaching of economics, and doubtless to the social sciences in general, can be carried out with relatively small financial outlay. If properly organized, a workshop in the social sciences need not be as expensive as the use of laboratory techniques in the natural sciences, because it does not involve the use of expensive equipment and building facilities. In

other words, the relative costs of instruction per student would still fall considerably short of those in the natural sciences.

*Fifth*, in determining the scope of the workshop experiment at Wesleyan we were aware of the danger involved in scattering our energies over too wide a field with the result that no technique could be thoroughly explored. This danger, however, had to be faced in the interest of obtaining a maximum of results and insights. There is doubtless a need for additional experiments designed to cover one or the other phase of the Wesleyan experiment in a more intensive manner. Also, an early training in the use of elementary statistical and mathematical tools of analysis deserves attention as an integral part of workshop techniques in the teaching of economic principles.

## Teacher Preparation of Air University

EUGENE E. MYERS
AND
JOHN C. PETERSON

[*Continued from page 200*]

activities to challenge and reward the best capabilities of every student without overtaxing his powers of assimilation.

There are always a few superior students who will do more than is required in the course. Because of this, additional enriching experiences have been set up to be offered during planning and preparation hours; for example, viewing certain training films which are followed by discussion. This activity gives twofold benefits: first, restatements and review of methods and techniques of teaching; second, practice and guidance in evaluating training aids. Opportunities are also given students to participate as lecturers in the Information and Education Program conducted at Craig Air Force Base for airmen. This program, which is intended to keep the men abreast of military and world affairs, is attractive to a number of instructors-in-training, since it affords extra opportunity to practice speaking before large groups.

The fact that a pre-service course of education and training for college instructors is now satisfactorily filling a widespread need in the Air Force may be significant in pointing a way to satisfaction of an even more extensive need in civilian higher education. Up to this time individual educators from civilian institutions have contributed most helpfully to this development. It is hoped that this kind of co-operation with the Academic Instructor Division of Air University will continue. But the time now appears ripe for fuller civilian participation on the institutional level. Would it not now be feasible for one or more civilian institutions of higher learning to participate operationally, actually carrying on experiments with their own graduate students? Could such a program on a limited scale be set up so as to yield objective measures of its educational effects upon the second generation, so to speak, of its students? If so, what financial support might it receive from educational and research foundations or perhaps from public-spirited executives of great business and industrial concerns?